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ABSTRACT

The Army has established an Assessment Center Pilot Program at The Infantry School, Fort Benning, Georgia. The purpose of the program is to determine the feasibility of assessment centers for the Army. The project described in this report was designed to contribute to two particular objectives of the pilot program. These objectives were (1) to identify potential uses of assessment results and techniques in accomplishment of the leadership development mission of the Infantry School and the Army, and (2) to develop ways of improving assessment procedures and methodology for use by the Army. To fulfill these objectives, four discriminable tasks were undertaken: (1) to investigate potential uses of assessment results; (2) to identify potential uses of assessment methods for training; (3) to develop procedures for training assessors to use observational and recording techniques; and (4) to develop a model for designing assessment exercises, or situational tests. (Author/BW)

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The Human Resources Research Organization (HumRRO) is a nonprofit corporation established in 1969 to conduct research in the field of training and education. It was established as a continuation of The George Washington University, Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation.

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FINAL TECHNICAL REPORT

RESEARCH ON UTILIZATION OF ASSESSMENT RESULTS AND METHODS

by

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FOREWORD

This report describes activities performed by the Human Resources Research Organization (HumRRO) for a project devoted to research concerned with ways in which assessment center methods and results can be effectively used within the U.S. Army. The project was conducted by HumRRO for the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI).

Work on the project was begun in October 1973 and completed in July 1974, and was conducted by HumRRO Division No. 4, Fort Benning, Georgia. Dr. T. O. Jacobs is Director of Division No. 4 and Dr. Joseph A. Olmstead was Project Director. The research staff consisted of Dr. Larry L. Lackey, Mr. Harold E. Christensen, and Mr. James A. Salter. Dr. Lackey was mainly responsible for the evaluation of assessment exercises as training methods and development of the model for designing assessment exercises; Mr. Christensen conducted the work concerned with utilization of assessment results; and Dr. Olmstead and Mr. Salter developed the program for training assessors.

Dr. Kay H. Smith is Chief of the ARI Field Unit at Fort Benning and served as technical monitor of the project. The advice and assistance of the Fort Benning ARI staff is gratefully acknowledged.

The work was performed under Contract No. DAHC-19-74-C-0011.

Meredith P. Crawford
President
Human Resources Research Organization

SUMMARY AND CONCLUSIONS

This report presents the results of a research project concerned with the potential utilization of assessment center methods and results within the United States Army. The purpose of the research was to enhance the capabilities of assessment centers for conducting effective assessments of military personnel and for contributing to the leadership development mission of the U.S. Army Infantry School and the Army.

The Army has established an Assessment Center Pilot Program at The Infantry School, Fort Benning, Georgia. The purpose of the program is to determine the feasibility of assessment centers for the Army. In the pilot program, student noncommissioned officers entering the Noncommissioned Officer Educational System (NCOES) advanced program and student officers entering the Infantry Officer Advanced Course (IOAC) are assessed from a career counseling perspective and students in the Branch Immaterial Officer Candidate Course (OCS) and the Infantry Officer Basic Course (IOBC) are assessed from a selection perspective. The project described in this report was designed to contribute to two particular objectives of the pilot program. These objectives are (1) to identify potential uses of assessment results and techniques in accomplishment of the leadership development mission of the Infantry School and the Army, and (2) to develop ways of improving assessment procedures and methodology for use by the Army.

The project reported here consisted of a number of discriminable tasks and subtasks; several were completed during early phases and

their results were described in detail in earlier interim reports. Only summaries of these earlier-reported tasks are presented in this report. Other tasks, completed in later phases of the project, have not been previously reported and, therefore, complete details of them are described in the present report.

TASK I - INVESTIGATE POTENTIAL USES OF ASSESSMENT RESULTS

The objectives for Task I were to identify and delineate specific ways in which assessment results can be used productively by The Infantry School to advance its mission of leadership development. The task consisted of three separate subtasks which are summarized below.

Subtask 1 - Relevance of Infantry School Curricula for Assessment Dimensions

Problem. Personnel processed by the USAIS Assessment Center are evaluated on 12 leadership dimensions. The objective of the study was to identify those blocks of instruction within Infantry School courses that possess potential for developing leadership attributes represented by the 12 dimensions.

Method. The dimensions were analyzed to ascertain the attitudes, knowledges, and skills encompassed by each. Then, Programs of Instruction of The Infantry School, together with relevant supporting documents, were surveyed to identify the specific contents and activities in them. The following courses were surveyed: (1) Infantry Officer Advanced Course, (2) Infantry Officer Basic Course, (3) Branch Immaterial Officer Candidate Course, and (4) Infantry/Armor Advanced Noncommissioned Officer Course. In addition, elective programs and the program of the Individual

Learning Center were surveyed. Examination of program contents and instructional objectives led to conclusions concerning attributes likely to be developed by each block of instruction. Assessment dimensions were matched with pertinent blocks of instruction and blocks possessing potential for developing the attributes were identified.

Results. Detailed findings were presented in an interim report in January 1974. For each course, blocks of instruction relevant for each leadership dimension were specified and discussed. The results indicate that the principal curricula of The Infantry School constitute a substantial resource of training materials pertinent to the assessment dimensions. In addition, electives and Individual Learning Center programs offer highly promising sources of training materials for remedial and enrichment purposes. These programs appear to possess the greatest potential for individually-tailored programs based upon assessment results.

Conclusions. The data resulting from this subtask will (1) contribute to curriculum planning designed to overcome any common deficiencies identified in student populations by the assessment process, and (2) assist Infantry School counselors to design remedial programs intended to overcome deficiencies in individuals that are revealed by assessment profiles.

Subtask 2 - Potential Uses of Assessment Results for Individualized Developmental Assistance

Problem. Objectives were to (1) identify potential resources within The Infantry School for providing individualized instruction and career guidance; (2) determine the feasibility of implementing systematic programs for providing remedial instruction; and (3) explore possible avenues of coordination between assessment center procedures and results on the one hand and course enrollment, scheduling, and student academic progress on the other.

Method. Current Army training policy and Infantry School operating procedures pertaining to counseling practices and the provision of remedial instruction were reviewed. Then, interviews were conducted with members of The Infantry School staff responsible for counseling and remedial instruction, for the purpose of learning about current practices and obtaining opinions about the most feasible uses of assessment results.

Results. Complete findings were presented in an interim report in April 1974. After a review of potential resources for providing individualized remedial or developmental instruction, a strategy for utilization of assessment results was proposed. Essential features of the strategy include (1) early identification of student deficiencies through assessment, (2) use of a preventive approach in which remedial action is taken before the occurrence of course difficulty or failure, and (3) counselor follow-up of student remedial activities.

Conclusions. It was concluded that the best use of individual assessment profiles can be obtained through formal establishment of a counseling service within The Infantry School. Implementation of the program would require (1) development of criteria for identifying an individual's deficiencies from assessment results; (2) complilation of an index of available instruction keyed to the respective relevant assessment dimensions; (3) activation of a counseling section within The Infantry School for providing guidance to students with identified leadership deficiencies; and (4) in some content areas, development of individualized or group instruction for improving performance in leadership areas represented by the assessment dimensions.

Subtask 3 - Identification of Deficiencies Within Assessee Populations

Problem. The objective of this subtask was to provide information about existent deficiencies among entering Infantry School students as revealed by assessment results.

Method. Results of all assessments conducted by the USAIS Assessment Center through April 1974 were analyzed. Analyses were performed on results for (1) 87 entering students of the Infantry/Armor Advanced Noncommissioned Officer Educational System program, (2) 54 Infantry Officer Basic Course entering students, and (3) 53 entering students of the Infantry Officer Advanced Course. Data for OCS students were insufficient for reliable analysis.

For each of the above groups, mean scores were computed on 26 general indicator scales subsumed under 12 leadership dimensions.

Based upon performance standards explicit or implied in the scale descriptors, classifications of "acceptable," "acceptable but needs improvement," and "deficient" were derived. Group mean scores were then placed in the appropriate categories. Also, percents of assessees placing in each classification were determined.

Results. For senior noncommissioned officers, considerable variability was found among the measures. For most general indicators, need for improvement was found and actual deficiencies were found for Planning Ability and Motivating Subordinates. Similar results were found for IOBC students.

For IOAC students, the pattern is that of relatively high performance which is somewhat more uniform across all indicators than for the other groups. No clear-cut deficiencies were found; however, need for improvement was found for 16 general indicators.

Patterns of performance and comparisons between the student groups are analyzed and discussed in the report.

Conclusion. The results of this study should demonstrate the utility of assessment results for use in curriculum planning based on identified deficiencies of student groups. Since such data result from systematic evaluations made within controlled environments, they can be used with a considerable degree of confidence. Furthermore, the various specific findings provide important understandings of the strengths, weaknesses, and relative capabilities of various student populations.

TASK II - POTENTIAL USES OF ASSESSMENT METHODS FOR TRAINING

Problem

The assessment exercises used by the Assessment Center appear to possess potential as innovative training methods within a military context. The purpose of this task was to examine each of the assessment techniques to determine feasibility as training methods and to modify those deemed feasible so as to be appropriate for military training purposes.

Method

The approach involved a conceptual analysis of all exercises used by the Assessment Center to determine their potential as training methods, followed by modification of selected methods for training purposes and an evaluation of the selected methods to determine their efficacy as training techniques.

Results of the conceptual analysis were presented in an interim report in December 1973. For each technique, an analysis was presented in terms of (1) description of the exercise, (2) attributes assessed by the exercise, (3) findings of other studies pertaining to the technique, and (4) evaluation of training potential.

As a result of the analysis, two exercises were selected for modification and evaluation. The exercises were (1) the In-Basket Exercise, and (2) the Controlled Simulation.

A training program was developed to include 3-1/2 hours of lecture-discussion covering basic conceptual material, administration of the two exercises, and performance feedback and critique following each exercise. Training materials consist of a Student Text, and Instructor's

Manual, and materials necessary for conducting the exercises. The final program is 19-1/2 hours in length, consisting of 3-1/2 hours of lecture-discussion, 8 hours of practical exercises, and 8 hours of feedback, critique, and summary.

For evaluation of the program, test subjects were newly-commissioned second lieutenants assigned to the Infantry Officer Basic Course at Fort Benning, Georgia. Nine subjects served as a control group, receiving no training but participating in the evaluation. Within an experimental group, all subjects (14) received the conceptual content presentations. Then, 10 participated in the In-Basket Exercise with feedback and 4 participated in the Controlled Simulation with feedback. All subjects then completed a post-training evaluation examination designed to evaluate achievement of a set of terminal training objectives requiring analysis of test problems and provision of problem solutions. Student reactions to the course were also collected.

Results

Data from the course evaluation form completed by students show that, generally, the course elicited a positive reaction.

Because of small sample sizes, nonparametric statistics were used to evaluate accomplishment of the training objectives by the control and experimental groups. Results of a sign test showed that both the In-Basket and the Controlled Simulation experimental groups achieved significantly more training objectives than the Control group, i.e., experimental sub-groups consistently outperformed the control group and no difference was found between the experimental sub-groups.

Conclusion

From the results, it is concluded that most of the assessment exercises used by the Assessment Center possess training potential. Furthermore, participation in the experimental training program using the In-Basket and Controlled Simulation Exercises results in improved knowledge and performance of leadership. The program and materials that were developed are effective means for improving selected leadership capabilities among junior officers and senior ROTC students.

TASK III - DEVELOP PROCEDURES FOR TRAINING ASSESSORS TO USE OBSERVATIONAL AND RECORDING TECHNIQUES

Problem

The objective of this task was to develop a course of instruction in the use of performance-based assessment techniques, which course would be generally applicable to a range of tests and assessment situations and would be designed to provide a common base of skills in the use of performance-based assessment procedures.

Method

Assessment exercises used by the Assessment Center, certain performance-based proficiency tests used by the Army, and a number of training criterion tests developed by HumRRO were analyzed to identify performance requirements and potential areas of deficiency. In addition, testing and assessment literature was surveyed to identify elements critical to effectiveness of assessors.

As a result of the above activities, three broad skill areas were identified as essential for inclusion in the training program.

The areas are (1) design of assessment exercises, (2) design of assessment instruments, and (3) conduct of assessments. For each skill area, a terminal training objective was developed.

Training materials were designed to accomplish the objectives. Since the principal purpose was skill development, the program content was planned to be heavily practical and, to the fullest extent possible, the more technical aspects of measurement theory were omitted. Furthermore, the program was designed to permit early and frequent exposure to practical exercises and to provide continuous feedback and critique of performance during the exercises. Also developed were instruments and materials to be used in evaluating the program.

The program was administered to eight second lieutenants who had recently completed either the Infantry Officer Basic Course or the Branch Immaterial Officer Candidate Course. Instruction was provided by HumRRO personnel. The full program was conducted in eight-hour sessions on five consecutive days, with the last half day devoted to evaluation. In addition to evaluation of the terminal training objectives, student reactions to the program were obtained through the use of a post-program questionnaire.

Results

Full results were presented in an interim report in May 1974. The training program consists of 9 hours of lecture-discussion and 28 hours of practical exercises, for a total of 37 hours. Thus, it is heavily weighted in the direction of "hands-on" work concerned with the practical aspects of designing assessment exercises and making assessments. The

final result is an integrated course entitled Fundamentals of Personnel Assessment.

Materials for conducting the program include (1) a Student Text for Fundamentals of Personnel Assessment, (2) an Instructor's Guide for Fundamentals of Personnel Assessment, and (3) a series of videotapes, audiotapes, and written documents used in the practical exercises. Complete guidance and all forms and materials required for conducting the program are included in the instructor's guide.

Based on preestablished criteria of accomplishment, all terminal training objectives were achieved by the program at a high level of confidence. Of particular interest are the interrater reliabilities, which are the principal indicators of the extent to which test subjects were trained to be effective assessors. For the three leadership dimensions used in the evaluation test, obtained interrater reliabilities for the eight students were .82, .85, and .96.

Student reactions were generally favorable. Certain specific student comments, coupled with instructor observations, resulted in minor revisions which were recommended in an errata sheet that accompanied the delivered products. The major aspects of the course, including a number of innovations in the field of training for personnel assessment, were found to be both feasible and effective.

Conclusion

It is concluded that the training program entitled Fundamentals of Personnel Assessment is an effective means for equipping military personnel to design and conduct performance-based assessment exercises.

TASK IV - DEVELOP A MODEL FOR DESIGNING ASSESSMENT EXERCISES

Problem

Predominant among the techniques used by assessment centers are so-called "assessment exercises" which are, in effect, situational tests. In these exercises, assessees are placed in some sort of situation intended to evoke certain behavior which can be observed and evaluated. However, a variety of situational factors may impact upon an assessee and may influence his behavior during the tests. Therefore, the appropriate mix and control of such factors may be a critical determinant of whether the desired behavior is actually exhibited during the course of the exercise. The objective of the task was to develop a model which would incorporate the numerous factors to be considered and controlled and would provide a procedure for integrating them into exercises capable of stimulating assessees to display behavior that is observable, scorable, and relevant to the purposes for which the exercises are constructed.

Method

It was first necessary to develop a scheme for classifying the behavioral processes most likely to be evaluated in assessment situations. Then, an analysis was made of situational factors that facilitate assessees' performance and factors that impact upon the ways in which assessable behavior is manifested. Finally, a model was developed to be used in analyzing the demand characteristics of assessment situations and for insuring that such situations have been structured so as to evoke assessable behavior.

Results

The product of this task is a 12-step model to be followed during the design of assessment exercises. The steps are:

1. Determine assessment purpose.
2. Analyze focal jobs or tasks.
3. Identify critical attributes for job success.
4. Develop indicators of critical attributes.
5. Identify target processes to be assessed.
6. Specify primary contexts of performance.
7. List facilitating conditions.
8. Identify candidate classes of exercises.
9. Determine degree of job remoteness.
10. Select optimum classes of exercises.
11. Develop exercise content and structure.
12. Test assessee instructions and tasks.

When followed, the model requires exercise designers to systematically consider a variety of factors which both research and experience have shown to be determinants of behavior within most assessment situations. For those steps where they are relevant, the report delineates the contributing factors and provides comprehensive schemes for systematically classifying them so that ease and simplicity in using the model will be maximal. Also, an example of use of the model to design assessment exercises in an organizational context is provided.

Conclusion

The model is feasible for use in the design of assessment exercises and adherence to it can be expected to produce effective and efficient exercises.

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Chapter 1

INTRODUCTION

This report presents an overview of a research project concerned with the potential utilization of assessment center methods and results within the United States Army, summarizes results previously presented in detail in various interim reports, and describes the results of work not previously reported. The overall purpose of the research was to enhance the capabilities of assessment centers for conducting effective assessments of military personnel and for contributing more effectively to the leadership development mission of The U.S. Army Infantry School and the Army.

BACKGROUND

The concept of an "assessment center" involves the prediction of managerial or leader behavior by use of multiple methods of evaluation. In general, typical procedures include:

(1) the use of multiple assessment methods to obtain information about individuals.

(2) standardization of these methods and of techniques of making inferences from the obtained information.

(3) the use of several assessors whose judgments are pooled in arriving at evaluation of the assessed individual.

Intensive data-gathering methods are employed, with the complete range of techniques including paper-and-pencil tests, biographical

data, interviews, and assessment exercises (e.g., situational tests, work samples, simulations, group problem solving, and leaderless discussion groups). Typically, persons to be assessed are assigned to centers for periods of several days where they are exposed to the full spectrum of tests and evaluated by a staff of assessors. Assessment results may be used in selecting individuals for further training or for promotion, in counseling them for career development, in identifying training needs, and in evaluating effectiveness of training programs.

The Army has established an Assessment Center Pilot Program at The Infantry School, Fort Benning, Georgia. The purpose of the program is to determine the feasibility of assessment centers for the Army. To accomplish this purpose, full procedures for assessing three separate levels of personnel have been developed and are being evaluated. In the pilot program, student noncommissioned officers entering the Noncommissioned Officer Educational System (NCOES) senior program and student officers entering the Infantry Officer Advanced Course (IOAC) are assessed from the career counseling perspective and students in the Branch Immaterial Officer Candidate Course (OCS) and the Infantry Officer Basic Course (IOBC) are assessed from a selection perspective.

Plans for the pilot program included two particular objectives which the work encompassed by this report was designed to support. The objectives were (1) to identify potential uses of assessment

results and techniques in accomplishment of the leadership development missions of The Infantry School and the Army, and (2) to develop ways of improving assessment procedures and methodology for use by the Army.

SCOPE OF WORK

The project discussed in this report was designed to contribute to the above objectives. The plan of work included several discriminable tasks which are described below.

Task I - Investigate Potential Uses of Assessment Results

The purpose of this task was to identify and delineate ways in which assessment center results can be used productively by The Infantry School to advance its mission of leadership development. In the area of leadership development, the purposes of an assessment center are (1) to provide assessed individuals with valid and systematic information which can be used by them for self-development efforts, and (2) to provide educational and training institutions with data concerning both individual assessees and the assessee population as a whole, which data would assist the institutions in the design of curricula according to students' assessed needs and in planning special developmental programs for individuals. The goal of the task was to identify ways of implementing these purposes through the following related yet somewhat different studies or subtasks:

(1) Review current Infantry School curricula to determine relevance to leadership dimensions assessed by the Assessment Center.

(2) Identify ways assessment results can be used within The Infantry School to provide developmental assistance on an individual basis.

(3) Analyze assessment center results to identify consistent deficiencies among entering Infantry School students.

Task II - Evaluate Potential Uses of Assessment Methods for Training Purposes

The program of the Assessment Center includes a number of assessment exercises, or situational tests. Although used for assessment purposes, these techniques appeared to also possess potential as training methods within a military instructional context. If it could be shown that these techniques can be modified to become effective and practical training methods, the instructional armamentarium of the Army in the area of leadership would be considerably enhanced.

The purpose of this task was to examine each of the assessment techniques used by the Center to determine feasibility as training methods and to modify those deemed feasible so as to be appropriate for military training purposes.

Task III - Develop Procedures for Training Assessors to Use Observational and Recording Techniques

One potential function of an assessment center is to serve as a repository of expertise concerning assessment techniques and procedures

and to exploit this expertise by providing training to individuals who may be required to conduct assessments in other contexts. To support this function, this task was undertaken to develop a course of instruction in the use of performance-based assessment techniques, which course would be generally applicable to a range of tests and assessment situations and would be designed to provide a common base of skills in the use of performance-based assessment procedures.

Task IV - Develop a Model for Designing Assessment Exercises

An assessment center uses a variety of methods for obtaining information about individuals who are assessed. Predominant among these techniques are "assessment exercises," which are, in effect, situational tests. The exercises include simulations, games, leaderless discussion groups, work samples, problem-solving groups, and, in military contexts, field exercises. In all of these exercises, assessees are put into some sort of situation intended to evoke certain behaviors which can be observed and evaluated. However, a variety of situational factors may impact upon an assessee and may influence his behavior during the tests. Therefore, the appropriate mix of such factors may be a critical determinant of success of the assessment effort. Of special concern is the fact that, unless the demand characteristics of the exercise are appropriate, behavior that is relevant or that is scorable is not always evoked.

It appeared that the problem is mainly one of exercise design. Accordingly, the purposes of this task were to identify factors that influence behavior in situational tests and to develop a model which will take such factors into account and can be used to design effective assessment exercises.

ORGANIZATION OF THIS REPORT

Work on certain of the tasks and subtasks proceeded concurrently and several were completed at various points during the term of the project. Results for these early tasks and subtasks were fully presented in a number of interim reports. Certain other tasks were scheduled to be completed only during the final stage of the project and their results have not been previously reported.

In the remainder of this report, previously-reported tasks and subtasks will be summarized in Chapter II. Then, in succeeding chapters, all work which was not previously reported will be described in detail. Thus, this final report provides a summary record of all work accomplished during the project, together with detailed results of work not reported earlier.

Chapter 2

SUMMARY OF REPORTED WORK

As discussed in the preceding chapter, several tasks and subtasks were completed during early phases of the project and were fully described in a series of interim reports. Here, the studies which have been previously reported will be summarized. Full descriptions of all results may be obtained by reference to the interim reports cited in the summaries which follow.

POTENTIAL USES OF ASSESSMENT RESULTS

The objectives for Task I were to identify and delineate specific ways in which assessment results can be used productively by The Infantry School to advance its mission of leadership development. Subtasks 1 and 2 were described in interim reports and are summarized here. Completion of Subtask 3 coincided with the conclusion of the project and results for it are presented in Chapter 3.

Subtask 1 - Relevance of Infantry School Curricula for Assessment Dimensions

Problem. Personnel processed by the Assessment Center are evaluated on 12 different dimensions of leadership. For the most effective use of assessment results in planning both remedial instruction and general curriculum development, systematic knowledge is required about the relationship between Infantry School instruction and the leadership dimensions assessed by the Center. The

specific question to be answered was, "Which blocks of instruction provide, or have the potential for providing, training related to the dimensions which are evaluated by the Assessment Center?" If such information were available, it would be possible to plan curricula specifically intended to strengthen the assessed attributes in all students and, for individually-tailored remedial programs, to match required instructional modules with deficiencies diagnosed through the assessment process.

Method. The objective of the study was to identify those blocks of instruction within Infantry School courses that possess potential for developing the leadership attributes represented by 12 assessment dimensions. To accomplish this objective, the dimensions were analyzed to ascertain the attitudes, knowledges, and skills encompassed by each. Then, Programs of Instruction of The Infantry School, together with relevant supporting documents, were surveyed to identify specific contents and activities in each. The following courses were surveyed: (1) Infantry Officer Advanced Course, (2) Infantry Officer Basic Course, (3) Branch Immaterial Officer Candidate Course, and (4) Infantry/Armor Advanced Noncommissioned Officer Course. In addition, elective programs offered in connection with the courses and the program of the Individual Learning Center were surveyed.

Examination of program contents and instructional objectives led to conclusions concerning attributes likely to be developed by each

block of instruction. Assessment dimensions were matched with pertinent blocks of instruction and blocks possessing potential for developing the attributes were identified.

Results. Findings were reported in an interim report entitled The Relevance of Infantry School Curricula to Assessment Dimensions by Harold E. Christensen dated January 1974. For each course, blocks of instruction relevant to each assessment dimension were specified and discussed.

The results indicate that the principal curricula of The Infantry School constitute a substantial resource of training materials pertinent to the assessment dimensions. The courses provided to the three levels of personnel assessed by the Assessment Center offer essentially the same broad subjects; however, within each subject, relative emphases reflective of the various dimensions differ according to course and level of personnel because the blocks of instruction for each course have been specifically designed to achieve objectives deemed appropriate for particular levels of students.

Electives and Individual Learning Center programs offer highly promising sources of training materials for remedial and enrichment purposes. These programs appear to possess the greatest potential for individually-tailored programs based upon assessment results.

It was concluded that the data resulting from this subtask will:

(1) Assist counselors to design remedial programs intended to overcome deficiencies in individuals that are revealed by assessment profiles.

(2) Contribute to curriculum planning designed to overcome any common deficiencies identified in student populations by assessment results.

Subtask 2 - Potential Uses of Assessment Results for Individualized Developmental Assistance

Problem. A service school's ability to make optimum use of assessment results depends upon a number of factors. Foremost among these determinants are (1) the existence of individuals, or positions, who can productively use assessment results to plan individual remedial or developmental programs; (2) the availability of resources for providing individualized instruction; and (3) the administrative feasibility of providing remedial assistance that will be compatible with scheduling requirements, other demands for staff time, and school operating procedures. Objectives of this subtask were to (1) identify potential resources within The Infantry School for providing individualized instruction and career guidance; (2) determine the feasibility of implementing systematic programs for providing remedial instruction; and (3) explore possible avenues of coordination between assessment center procedures and results on the one hand and course enrollment, scheduling, and student academic progress on the other.

Method. Two approaches were used to obtain the required information. First, current Army training policy and Infantry School operating procedures pertaining to counseling practices and the provision of remedial instruction were reviewed. Second, interviews were conducted with members of The Infantry School staff who are responsible for counseling and remedial instruction in order to learn about current practices and to obtain opinions concerning the most feasible uses of assessment results.

Results. Complete findings were reported in an interim report entitled Results of Study of Potential Uses of Assessment Results by The Infantry School by Harold E. Christensen dated April 1974. After a review of potential resources for providing individualized remedial or developmental instruction, a strategy for utilization of assessment results was proposed. It was concluded that the best use of individual assessment profiles can be obtained through establishment of a formal counseling service within The Infantry School. Essential features of the proposed counseling program would include (1) early identification of student deficiencies through assessment; (2) use of a preventive approach in which remedial action is taken before the occurrence of course difficulty or failure; and (3) counselor follow-up of student remedial activities.

Implementation of the program would require (1) development of criteria for identifying an individual's deficiencies from assessment

results; (2) compilation of an index of available instruction keyed to the respective relevant assessment dimensions; (3) activation of a counseling section within The Infantry School for providing guidance to students with identified leadership deficiencies; and (4) in some content areas, development of individualized or group instruction for improving performance in leadership areas represented by the assessment dimensions.

POTENTIAL UTILITY OF ASSESSMENT METHODS FOR TRAINING

Task II, Evaluate Potential Uses of Assessment Methods for Training Purposes, was designed in two phases. The first phase was devoted to analyses of assessment exercises used by the Assessment Center and of methodologies underlying the exercises to determine their potentials for use in leadership training. Results of this phase were presented in an interim report and are summarized below. Based upon the findings of the first phase, ARI and HumRRO personnel then jointly selected several assessment methods to be adapted for training purposes. The second phase was devoted to development of leadership training modules based upon the selected methods. Results of this second phase have not been previously reported and are presented in Chapter 4.

Phase 1 - Analyses of Assessment Methods

Problem. The assessment programs conducted by the Center include, in addition to paper-and-pencil tests and interviews, a number of exercises which can be subsumed under the rubrics of "situational tests"

and "simulations." Included are leaderless group discussions, in-basket exercises, competitive games, and role simulations, all of which have had some degree of success in civilian contexts as "experiential" training techniques. Although used mainly for assessment purposes, these techniques appeared to possess potential as training methods within a military instructional environment.

The purpose of this phase was to analyze the various techniques to identify those possessing the greatest potential as training methods, determine requisites for effective performance in each training context, and to develop plans for empirical evaluation of the training efficacy of those methods deemed to possess the most potential for military instructional purposes.

Method. The approach involved conceptual analyses of assessment exercises used by the Center for the purpose of determining their potential as training methods. Included in the analyses were (1) Leaderless Group Discussion, (2) Management Exercise (Conglomerate), (3) Leadership Assessment and Development Exercise (LEADER), (4) Controlled Simulations, and (5) Assigned Leader Group Exercise.

Through observation during conduct of assessments, analyses of test protocols, and interviews with Assessment Center personnel, HumRRO staff members familiarized themselves with the techniques. Concurrently, a literature review was conducted to identify studies pertinent to use of the techniques and similar techniques for training

purposes. Then, each technique was analyzed to identify critical determinants and requisites for effective performance in the situation created by it. This also permitted determination of types of experiences to which participants are exposed in the assessment context and to which they might be exposed if the techniques were adapted to include procedures designed to provide a systematic learning environment.

Results. Complete findings were presented in an interim report entitled Feasibility of Assessment Methods for Leadership Training by Larry L. Lackey and Joseph A. Olmstead dated December 1973. For each technique, an analysis was presented in terms of (1) description of the exercise; (2) attributes assessed by the exercise; (3) findings of other studies pertaining to the technique; and (4) evaluation of training potential, to include leadership indicators and dimensions most likely to be developed through training.

For each technique, the leadership dimensions for which training was deemed feasible follow:

Leaderless Group Discussion - Social Skills, Communication Skills, Motivation (Social), Decision Making, Effectiveness in Organizational Leadership Role.

In-Basket Exercise - Social Skills, Communication Skills, Motivation (Social), Decision Making, Administrative Skills, Effectiveness in Organizational Leadership Role, Supervisory Skills.

Management Exercise (Conglomerate) - Social Skills, Communication Skills, Motivation (Social), Decision Making, Administrative Skills, Effectiveness in Organizational Leadership Role.

Leadership Assessment and Development Exercise (LEADER) - Social Skills, Communication Skills, Motivation (Social), Decision Making, Administrative Skills, Effectiveness in Organizational Leadership Role, Supervisory Skills.

Controlled Simulations - Communication Skills, Motivation, Decision Making, Administrative Skills, Effectiveness in Organizational Leadership Role, Supervisory Skills, Technical and Tactical Competence.

Assigned Leader Group Exercise - Social Skills, Communication Skills, Motivation (Social), Decision Making, Administrative Skills, Supervisory Skills.

It was concluded that every assessment exercise used by the Center possesses some potential for developing leadership skills. Although some exercises are more appropriate for developing certain skills than others, there is much overlap of skills that can be developed through them because all are designed to provide experience in dealing with phenomena common to the area of leadership. It was recommended that adaptations of the most feasible techniques be experimentally evaluated in order to test, or demonstrate, their effectiveness as training methods. A number of issues pertinent to such evaluation were discussed.

PROCEDURES FOR TRAINING ASSESSORS

Complete details of Task III, Develop Procedures for Training Assessors to Use Observational and Recording Techniques, were presented in an interim report entitled A Program for Teaching Fundamentals of Personnel Assessment by Joseph A. Olmstead and James A. Salter dated May 1974. The purpose of the task was to provide the Army with a capability for training responsible officers and noncommissioned officers to effectively assess the potential and proficiency of military personnel through the use of situational and performance tests. It was accomplished by development and evaluation of a program for training military personnel in fundamentals of assessment. All work for Task III was documented by the above interim report cited above.

Problem

Military personnel conduct assessments and evaluations under a wide range of circumstances. For this reason, a program intended to train assessors must teach knowledges, skills, and techniques that will be generally applicable and can be used for numerous purposes under highly varied conditions. In addition, the training program must be capable of being conducted by military personnel without further guidance or instruction by its designers.

To accomplish these objectives, it was necessary to (1) identify the general skills needed by military personnel in order to perform assessments and performance-based evaluations effectively; (2) establish

a content level which would be appropriate for the anticipated student population as well as suitable for use by military instructors who may possess only optimal expertise in test design and administration; (3) develop a program which would inculcate the required skills; (4) prepare all supporting materials; and (5) evaluate the developed program and materials to determine their effectiveness.

Method

Assessment exercises used by the Assessment Center, certain performance-based proficiency tests used by the Army, and a number of training criterion tests developed by HumRRO were analyzed to identify performance requirements and potential areas of deficiency. In addition, testing and assessment literature was surveyed to identify elements critical to effectiveness of assessors.

As a result of the above activities, three broad skill areas were identified as essential for inclusion in the training program. The areas are (1) design of assessment exercises, (2) design of assessment instruments, and (3) conduct of assessments. For each skill area one terminal training objective was developed. The resulting objectives follow.

Upon completion of the course, students should be able to:

(1) Design an assessment exercise capable of evoking valid, observable behavior on at least three different leadership dimensions.

(2) Design assessment instruments capable of validly and reliably measuring three separate leadership

dimensions. The instruments should include at least one behavior checklist and two rating scales.

(3) Using instructor-provided assessor instructions and rating scales, and after a training conference to establish common standards of reference, evaluate, as a class, assessees in a standard videotaped assessment exercise on three leadership dimensions and achieve a minimum interrater reliability of .75 for each dimension.

Training materials were designed to accomplish the above objectives. Since the principal purpose was skill development, the program content was planned to be heavily practical and, to the fullest extent possible, the more technical aspects of measurement theory were omitted. Furthermore, the program was designed to permit early and frequent exposure to practical exercises and to provide continuous feedback and critique of performance during the exercises. Also developed were instruments and materials to be used in evaluating the program.

The program was administered to eight second lieutenants who had recently completed either the Infantry Officer Basic Course or the Branch Immaterial Officer Candidate Course. Instruction was provided by HumRRO personnel. The full program was conducted in eight-hour sessions on five consecutive days. Upon completion of instruction, the last half day was devoted to evaluation. In addition to evaluation of

the terminal training objectives, student reactions to the program were obtained through the use of a post-program questionnaire.

Results

The training program consists of 9 hours of lecture-discussion and 28 hours of practical exercises, for a total of 37 hours. Thus, it is heavily weighted in the direction of "hands-on" work concerned with the practical aspects of designing assessment exercises and making assessments. The final result is an integrated course entitled Fundamentals of Personnel Assessment.

Materials for conducting the program include (1) a Student Text for Fundamentals of Personnel Assessment, (2) an Instructor's Guide for Fundamentals of Personnel Assessment, and (3) a series of video-tapes, audiotapes, and written documents used in the practical exercises. Complete guidance and all forms and materials required for conducting the program are included in the instructor's guide.

Based on preestablished criteria of accomplishment, all terminal training objectives were achieved by the program at a high level of confidence. Of particular interest are the interrater reliabilities, which are the principal indicators of the extent to which test subjects were trained to be effective assessors. For the three leadership dimensions used in the evaluation test, obtained interrater reliabilities for the eight students were .82, .85, and .96.

Student reactions were generally favorable. Certain specific student comments, coupled with instructor observations, resulted in

minor revisions which were recommended in an errata sheet that accompanied the delivered products. The major aspects of the course, including a number of innovations in the field of training for personnel assessment, were found to be both feasible and effective.

It is concluded that the training program entitled Fundamentals of Personnel Assessment is an effective means for equipping military personnel to design and conduct performance-based assessment exercises.

Chapter 3

DEFICIENCIES WITHIN ASSESSEE POPULATIONS

Task I was concerned with identification of potential uses of assessment results by The Infantry School. Work on the task was divided into three subtasks: (1) a review of current Infantry School curricula to determine their relevance to the leadership dimensions upon which personnel are evaluated by the Assessment Center; (2) an examination of ways in which assessment results might be used by The Infantry School to plan developmental or remedial assistance for students; and (3) an analysis of assessment results to identify consistent deficiencies that may exist among populations of prospective students. Results of the first and second subtasks were presented in interim reports submitted earlier and were summarized in Chapter 2. The results of Subtask 3 have not been previously reported and will be presented in this chapter.

The objective of Subtask 3 was to provide information about existing deficiencies among entering students of The Infantry School. One of the principal values of a military assessment center lies in its potential as a source of information about student populations. This information may range from data about such general attributes as intellectual and creative ability, motivation toward work, and social competence to that concerning acquired skills in areas such as administration, supervision, and technical performance. If deficiencies in such attributes or skills exist for considerable numbers of entering

students, this information would have significant implications for the kinds of instruction that should be offered. It would be expected that wide individual differences would be found on the various assessed attributes, and, indeed, a range of differences would provide the basis upon which remedial guidance could be provided to individuals. However, from the standpoint of curriculum design, the discovery of deficiencies common to a significant number of individuals in a student population would be of paramount interest as an indication that instruction in such identified areas requires emphasis.

This report presents data on the assessment center performance of all personnel in three student populations who have been processed by the Assessment Center through April 1974. Since only samples of students entering The Infantry School are processed by the Assessment Center at present, the data do not include all students; however, sufficient numbers of each assessed group are represented to conclude that the data are indicative of each population. Data are presented for (1) 87 entering students of the Infantry/Armor Advanced Noncommissioned Officer Educational System (ANCOES) program; (2) 54 Infantry Officer Basic Course (IOBC) students, and (3) 53 entering students of the Infantry Officer Advanced Course (IOAC). This was the total number of personnel in the three groups that had been processed by the Center during the period covered by this report. Data are not presented for students of the Branch Immaterial Officer Candidate Course (OCS) because an insufficient number of these personnel had been processed by the Center.

THE ASSESSMENT PROCESS

In the programs conducted by the Assessment Center, each assessee participates in a number of exercises during which his behavior is observed and evaluated. Brief discussions of each of the exercises follow.

Entry Interview

Each assessee is interviewed by a member of the Assessment Center staff shortly after reporting to the Center. The interview is semi-structured and provides an opportunity to obtain background information and to observe the assessee's performance in an interview situation. From the information obtained by the interview, the interviewer-assessor rates the assessee on various attributes such as range of interests, motivation, self-evaluation of strengths and weaknesses, self-confidence, communicating ability, etc.

Leaderless Group Discussion

The Leaderless Group Discussion (LGD) is used in two forms. The first (Form A) is used to assess noncommissioned officers and junior company-grade officers, including both ANCOES and IOBC student-assessees. Form B is used to assess senior company-grade officers, including IOAC. Assessees in the two forms address themselves to different problem situations, but the assessment objectives and assessment ratings of both forms are identical. In Form A. the problem centers around the selection of a Brigade Soldier of the Month. Each of six participating assessees represents a different

unit and each is instructed to do his best to convince other board members (assessees) that his unit's candidate should be selected. As a member of the selection board, however, each assessee is also concerned with finally choosing one candidate. In Form B, the setting is an Army post staff meeting concerned with the allocation of end-of-year funds. Each assessee in the six-man group represents a particular staff directorate and is faced with a similar conflict between self-interests and group interests. All assessees have the opportunity to make a short formal presentation in behalf of their self-interest objective, based on information provided to them. Each assessee also has the opportunity to participate in the discussion which follows.

Assessees are rated on attributes having to do with social skills, communication skills, motivation, etc.

In-Basket

This type of exercise has been used in many training and assessment programs. As currently used by the Assessment Center, there are three forms of the in-basket test appropriate for ANCOES, junior company-grade officers (including IOBC), and senior company-grade officers (including IOAC) respectively. All three forms are very similar. In each, the assessee is put in the situation of one who is assuming a new administrative position. He is instructed to respond to in-basket material on the former administrator's desk--letters, reports, memoranda, etc.--recommending appropriate actions. The assessee is

evaluated on administrative skills, decision making, communication skills, etc.

Conglomerate Game

The conglomerate is a structured, competitive management game played by three teams, each comprised of six assessee-participants. The game allows each team to select its own objectives and to devise strategies and organization to attain them. The mission given each team is to try to obtain ownership or control over several companies to form a conglomerate or series of conglomerates. All team members are equivalent in position and are authorized to represent the team in bartering. The play of the game involves periods of planning as well as trading periods. Assessees are evaluated on social skills, forcefulness, decision making, etc.

LEADER War Game

The Leadership Assessment and Development Exercise (LEADER War Game) is a competitive war game involving military force planning within the limits of time and budget constraints. The game is played in six periods, with each participant designated as leader for one of the periods. Of the groups of assessees included in the present study, only IOAC student-assessees participate in the LEADER exercise. Assessees are evaluated on factors such as adaptability, mental ability, social skills, effectiveness in organizational leadership role, etc.

Controlled Simulation

Controlled simulations were developed for each of the three major assessee populations, i.e., senior noncommissioned officers, junior

company-grade officers, and senior company-grade officers. Each simulation is entirely different and is designed to be appropriate for its particular assessee level. In each simulation, a single assessee interacts (over a communication network) with controller-assessors who represent superior and subordinate organizational levels. Through the simulation, a series of structured situations can be introduced and assessees' behavior scored. The assessors score each assessee on a series of behavior checklist items. After completion of the simulation, assessors also rate each assessee on a series of global ratings of basic dimensions of leadership skill. Behavior checklist scales from the simulation are used in assessing attributes in areas such as supervisory skills, decision making, administrative skills, etc.

Assigned Leader Group Exercise

The Assigned Leader Group Exercise (ALGE Field Exercise) involves a simulated field situation in which each assessee is required, on a rotating basis, to lead a six-man group through an assigned mission or problem which requires team activity and coordination. Each problem consists of an obstacle to be crossed and a mission objective to be accomplished. Assessees, acting both as team members and as designated leaders during the course of the exercise, are rated on a number of attributes including emergent leadership, motivation, etc. Of the assessees included in the present study, only ANCOES and IOBC personnel participate in this exercise.

Appraisal Interview

In this exercise, assessees act both as interviewers and interviewees in a simulated situation in which candidates are being interviewed to fill a hypothetical new position in a military organization. Only the interviewer is assessed. Each assessee conducts two interviews using an interview procedure which he has developed. This exercise provides an opportunity to assess attributes such as communication skills, administrative skills, self-confidence, etc.

Writing Exercise

This exercise presents a very similar writing assignment to assessees at each assessee level. The task is to write a report documenting a leader's experiences and recommendations concerning discharge action to be taken upon a subordinate. The assessee is evaluated primarily on written communication skills.

Appendix A contains a listing of all assessed attributes and the exercises relevant for each.

METHOD

Assessor evaluations of performance in the various exercises were the basic data for this study. Descriptions of procedures used to reduce the data and a discussion of certain critical methodological issues follow.

Behavior in most instances can be best described as occurring on a number of levels of generality or detail. The Infantry School

Assessment Center's approach to assessment reflects this principle by acknowledging broad dimensions of assessee performance, general indicators, or sub-classes, of dimension-related performance, and specific indicators which are actual behaviors indicative of dimension-related performance. The dimension "Administrative Skills" and its general and specific indicators are outlined at this point as an illustration of this three-level system of assessment classification.

Dimension: Administrative Skills

General Indicator: Organizational Ability

Specific Indicators:
(1) Makes personnel assignments which maximally utilize appropriate skills.
(2) Performs accurate assessments of available personnel's relevant skills.
(3) Coordinates actions of individuals and units.
(4) Determines required materiel.

General Indicator: Planning Ability

Specific Indicators:
(1) Specifies the sequencing of intermediate goals or tasks.
(2) Identifies time requirements for tasks.
(3) Develops plans which recognize long-range, as well as short-range, requirements.

General Indicator: Directing Ability

Specific Indicators:
(1) Identifies responsibilities which should be delegated to subordinates.

(2) Issues orders and instructions, as appropriate.
(3) Identifies, as appropriate, the impact of previous actions, orders, instructions, or decisions on the internal and/or the external environment of the organization.

The dimension level identifies broad areas of leadership performance. The general indicators enumerate some, but not necessarily all, of the general types of performance which are relevant to a dimension and thus provide an operational definition of the dimension. The specific indicators focus on concrete actions which an assessee might perform in one of the assessment exercises. Each of these levels of assessment represent leadership performance from a somewhat different level of generality and assessment results can be reported at any level of detail that is deemed appropriate.

Early in the study it was decided to present results in terms of only one level of assessment. General indicators were selected as the level for which results would be most useful. This level is the most meaningful for curriculum design because general indicators are sufficiently specific to permit identification of relevant course content but are sufficiently general for such content to be applicable across a range of leadership situations. Table 1 presents a list of the 26 general indicators included in the study arranged by dimension.

In this study, each general indicator score is expressed as a mean of all ratings on scales of which it is comprised. Measures of which general indicator scores are comprised are described in detail in

Appendix A. All rating scales contributing to a score are listed in the appendix. Simulate behavioral checklist scales are indicated by scale title and the number of items in the scale. Simulate Global Ratings of dimension-level performance were included as parts of General Indicator Scores whenever their content matched that of the general indicator.

Table 1

Dimensions and Their General Indicators

Communication Skills:
1. Skill in informal oral communication.
2. Skill in formal oral communication.
3. Skill in written communication.

Mental Ability:
4. Intellectual ability.
5. Creative and innovative ability.

Social Skills:
6. Effectiveness in interpersonal situations.
7. Positive impression.
8. Effectiveness in influencing others.

Effectiveness in Organizational Leadership Role:
9. Effectiveness in working with superiors.

Administrative Skills:
10. Organizational ability.
11. Planning ability.
12. Directing ability.

Motivation:
13. Work motivation.
14. Social motivation.

(Continued)

Table 1 (cont'd)

Decision Making:
15. Decisiveness.
16. Use of available information.
17. Decision quality.

Adaptability:
18. Tolerance of stress.
19. Behavioral flexibility.

Forcefulness:
20. Self-confidence.
21. Display of initiative.

Supervisory Skills:
22. Facilitation of subordinates' tasks.
23. Effective support of subordinates.
24. Motivating subordinates.
25. Developing unit cohesion and esprit de corps.
26. Quality control of subordinate and unit performance.

Comparability of Ratings

The rating items which contribute to each general indicator score are reproduced in Appendix A. An inspection of the items shows considerable variation in item format and in the descriptors used to define scale points; however, most of the ratings are based upon five-point scales. One frequently used format provides scale points which are labeled as follows: Excellent, Good, Average, Fair, and Poor. Use of the term "Average" gives this rating format a normative flavor. Nevertheless, there is an absolute standard of acceptable or

unacceptable performance also implied in this scale and the rating descriptors, while themselves highly general, are always tied to specific behavioral descriptions through the definition of the attribute being rated which precedes the scale. The following instructions which are provided to assessors in some of the rating scales help clarify the rater set which is desired.

5 - Excellent - Mostly good qualities.
4 - Good - Few poor qualities, many good.
3 - Average - Several poor qualities, several good.
2 - Fair - Many poor qualities, few good.
1 - Poor - Mostly poor qualities.

Ratings made with this set appear quite comparable to the simulate dimension global ratings which use the following rating format:

5 - The assessee's performance was usually effective.

4 - The assessee's performance was more often effective than ineffective.

3 - The assessee's performance was effective about as often as it was ineffective.

2 - The assessee's performance was more often ineffective than effective.

1 - The assessee's performance was usually ineffective.

Another commonly-used rating format incorporates the behavior being rated directly into the scale-point descriptors. A typical example of a scale of this type is a rating of decisiveness which provides the following scale anchors:

5 - Frequently made timely decisions.

4 -

3 - Occasionally failed to make decisions or some decisions made were not timely.

2 -

1 - Seldom made decisions or most decisions made were not timely.

The vast majority of rating measures appear to be comparable in two important respects. First, there is evidence of consistent attempts to provide assessors with absolute standards for rating behavior. It is probably unavoidable that ratings be made with some normative considerations; however, this does not negate the effect of employment of an absolute standard for the acceptability or unacceptability of assessee performance. It should be possible for all assessees to be rated on the acceptable or unacceptable ends of any of the rating scales, if performance warrants it. This is an important consideration in the present study because interest is primarily focused upon establishing population deficiencies rather than in discerning individual differences.

The second important aspect of rating scale comparability is the high degree of consistency among items in the general meanings of scale points. While the descriptor terminology used may differ, nearly all rating items employ a fairly comparable use of scale points.

Thus, although scales differ somewhat in format and terminology used in descriptors, most are fundamentally comparable. This

comparability makes it possible, with some minor adjustments, to combine results from relevant rating scales into general indicator scores.

Adjustment of Scales

For this study, the descriptors of scale points were abstracted to the following general definitions:

5 - Performance of assessee judged to be highly acceptable or effective.

4 - Performance generally acceptable with little, if any, deficiency.

3 - Performance minimally acceptable; deficient performance observed but not enough to overbalance effective performance (acceptable with room for improvement).

2 - Performance marginally deficient, i.e., slightly below acceptability; deficient performance outweighed effective performance.

1 - Performance highly deficient.

Although very few scales required adjustment, when necessary, scale scores were adjusted to conform to the above general standards. One major type of measure--the Simulate Behavioral Checklist--could not be considered directly comparable to the system described above. Each simulate scoring item is addressed to a specific structured situation designed to evoke a particular kind of behavior by assessees. Each behavior is scored on the basis of predetermined behavior categories according to the following general classifications:

3 - Very satisfactory performance. Represents a very effective method of dealing with the structured set of circumstances.

2 - Satisfactory performance. Represents a less effective method of dealing with the situation.

1 - Marginal performance. Represents a fairly ineffective method of dealing with the situation.

0 - Unsatisfactory performance. Represents a very ineffective method of dealing with the situation.

In the interest of comparability, simulate checklist scores were adjusted as follows:

Simulate Item Score	Adjusted Score
3	5
2	4
1	2
0	1

No system for adjusting scores can produce complete comparability among the variety of measures used in the program of the Assessment Center. However, through the elimination of obvious discrepancies between scales, comparability is maximized to the extent that, if a score on one general indicator reflects a particular degree of performance deficiency, a similar score on another general indicator will indicate, to a reasonable extent, the same degree of deficiency.

Criteria of Acceptability and Deficiency

As stated in an earlier section, general indicator scores are means of ratings on the scales which are subsumed under each general indicator. Computation of means of point scales resulted in more or less continuous

distributions of general indicator scores. Class intervals were defined as follows:

Class Interval	Score Category
0.5-1.5	1
1.6-2.5	2
2.6-3.5	3
3.6-4.5	4
4.5-5.5	5

Practically, the possible range of general indicator scores was 1 to 5.

Based upon the performance standards explicit or implied in the various rating descriptors, classifications of "acceptable," "acceptable but needs improvement," and "deficient" performance were derived. General indicator score categories 4 and 5 were classified as "acceptable," 3 as "acceptable but needing improvement," and 1 and 2 as "deficient." This classification scheme is consistent with performance standards implied in assessor ratings and will be used for discussion of the data in the Results section of this chapter. Underlying this procedure is an assumption that designers of the assessment exercises established rating standards which coincide with general job requirements for the various student populations.

Population Differences

In the presentation and discussion of assessment data, comparisons between student populations will sometimes be made. The ANCOES, IOAC, and IOBC groups undoubtedly differ on such demographic variables as age, achieved education, military experience, etc. It is reasonable to

expect differences on many of the assessed attributes. In this regard, certain factors should be kept in mind concerning any differences which may be found. These factors are:

(1) Rating scales used in the assessment process were identical for the three groups.

(2) While the rating scales are identical, the content of assessment exercises sometimes differs substantially for the three student-assessee populations. Thus, an assessor may evaluate different behaviors in different groups while using the same scale.

(3) Although the three student groups are exposed to many of the same exercises, the programs are not identical and, therefore, scores for indicators are not always comprised of the same sets of ratings within all groups.

The statistical reliability of differences is not directly addressed in this report. The major reason is that differences between assessee populations were not a fundamental issue in the study.

RESULTS

The data will be presented in the form of group means, standard deviations, and percentages of assessees placing in each scoring category for each general indicator.

The results will be presented separately for the ANCOES, IOBC, and IOAC student-assessee populations.

Senior Noncommissioned Officers

Data for ANCOES assessees are presented in Table 2. The pattern of assessed performance for this group shows considerable variability among the measures. An examination of mean performance indicates that there are fully acceptable levels of performance on only the following general indicators: Positive Impression, Work Motivation, and Self-Confidence. Means for all other indicators are in a range which indicates that a majority of assessees have at least some need for improvement and, for two general indicators, performance is indicative of actual deficiency. The two indicators on which performance is deficient are Planning Ability and Motivating Subordinates.

An examination of the percentages within the scoring categories provides a more accurate indication of the extent of performance deficiency among assessees. When percentages for score categories defined as "deficient" (score categories 1 and 2) are pooled, a number of general indicators show at least 25 percent of assessees in the deficient range. The highest deficiency rate occurs in Planning Ability, with 54 percent of assessees showing deficiency. This is followed, in turn, by Motivating Subordinates, 46 percent; Quality Control of Subordinate and Unit Performance and Written Communication, each with 37 percent; Support of Subordinates, 31 percent; Display of Initiative, 30 percent; Use of Available Information, 29 percent; Decisiveness, 27 percent; and both Directing Ability and Tolerance of Stress, 25 percent.

Table 2

General Indicator Scores for ANCOES Assessees[1]

	General Indicator	Percent of Assessees in Each Score Category — Score Category 5	4	3	2	1	Mean Rating	Standard Deviation
1.	Informal Communication	8	46	41	4	1	3.47	0.57
2.	Formal Oral Communication	5	21	57	16	1	3.12	0.61
3.	Written Communication	4	14	45	26	11	2.77	0.78
4.	Intellectual Ability	17	30	31	15	7	3.36	1.14
5.	Creative & Innovative Ability	9	30	55	6	0	3.43	0.74
6.	Interpersonal Effectiveness	24	33	23	18	2	3.49	0.85
7.	Positive Impression	14	56	25	5	0	3.66	0.58
8.	Influencing Others	3	31	52	14	0	3.14	0.57
9.	Working with Superiors	15	30	39	15	1	3.43	0.74
10.	Organizational Ability	7	34	43	15	1	3.30	0.72
11.	Planning Ability	0	13	33	38	16	2.53	0.48
12.	Directing Ability	11	35	29	14	11	3.21	1.17
13.	Work Motivation	28	44	26	2	0	3.82	0.60
14.	Social Motivation	3	29	61	7	0	3.26	0.49
15.	Decisiveness	2	26	45	21	6	3.05	0.66
16.	Use of Available Information	1	16	54	24	5	2.91	0.63
17.	Decision Quality	9	34	51	6	0	3.40	0.60
18.	Tolerance of Stress	7	37	31	20	5	3.20	0.74
19.	Behavioral Flexibility	14	39	38	9	0	3.48	0.63
20.	Self-Confidence	24	33	37	6	0	3.57	0.68
21.	Display of Initiative	16	16	38	17	13	3.04	0.98
22.	Facilitation of Subordinates	10	34	39	14	3	3.31	0.82
23.	Support of Subordinates	10	31	28	24	7	3.17	0.96
24.	Motivating Subordinates	2	7	45	32	14	2.44	0.87
25.	Developing Esprit*							
26.	Quality Control	2	17	44	28	9	2.90	0.73

[1] N = .87.

* ANCOES assessees are not assessed for this indicator.

By combining the three lowest rating categories, it is possible to get an even broader view of the number of assessees who appear to need improvement. For each of 19 of the general indicators, 50 percent or more of assessees are classed either as deficient or needing improvement. The only dimensions for which 50 percent of assessees are classed as clearly acceptable are Informal Communication, Interpersonal Effectiveness, Positive Impression, Work Motivation, Behavioral Flexibility, and Self-Confidence.

Infantry Officer Basic Course

Data for IOBC assessees is presented in Table 3. The general pattern is quite similar to that for ANCOES. Mean scores indicate a clearly acceptable level of performance on only Work Motivation, Intellectual Ability, and Interpersonal Effectiveness, with Positive Impression falling on the borderline. A majority of IOBC assessees have at least some need for improvement in all other areas. Indicators for which mean performance is indicative of clear-cut deficiencies are Planning Ability and Motivating Subordinates.

An examination of percentages shows that 25 percent or more of assessees were rated actually deficient on six general indicators as follows: Motivating Subordinates, 92 percent; Planning Ability, 61 percent; Display of Initiative, 39 percent; Facilitation of Subordinates, 37 percent; Decisiveness, 35 percent; and Influencing Others, 28 percent. In addition to the above indicators, 50 percent or more of IOBC assessees are either deficient or need improvement in

Table 3

General Indicator Scores for IOBC Assessees[1]

	General Indicator	Percent of Assessees in Each Rating Class					Mean Rating	Standard Deviation
		Rating Class						
		5	4	3	2	1		
1.	Informal Communication	3	50	41	6	0	3.41	0.54
2.	Formal Oral Communication	3	22	56	19	0	3.13	0.60
3.	Written Communication	7	19	54	13	7	3.08	0.78
4.	Intellectual Ability	20	43	22	9	6	3.63	1.02
5.	Creative & Innovative Ability	17	31	37	11	4	3.46	1.03
6.	Interpersonal Effectiveness	18	48	19	11	4	3.55	0.82
7.	Positive Impression	11	50	30	9	0	3.50	0.61
8.	Influencing Others	4	20	48	20	8	2.90	0.73
9.	Working with Superiors	2	33	56	7	2	3.17	0.60
10.	Organizational Ability	2	33	43	20	2	3.13	0.65
11.	Planning Ability	0	9	30	52	9	2.53	0.65
12.	Directing Ability	7	35	41	17	0	3.35	0.67
13.	Work Motivation	37	46	13	4	0	3.90	0.68
14.	Social Motivation	3	24	67	6	0	3.21	0.46
15.	Decisiveness	4	30	31	28	7	3.04	0.90
16.	Use of Available Information	0	24	59	17	0	3.03	0.49
17.	Decision Quality	2	44	46	6	2	3.31	0.55
18.	Tolerance of Stress	0	10	77	13	0	2.99	0.45
19.	Behavioral Flexibility	20	26	37	17	0	3.45	0.77
20.	Self-Confidence	11	37	41	11	0	3.39	0.69
21.	Display of Initiative	13	22	26	17	22	2.87	1.33
22.	Facilitation of Subordinates	7	24	32	30	7	2.94	0.85
23.	Support of Subordinates*							
24.	Motivating Subordinates	0	4	4	46	46	1.77	0.79
25.	Developing Esprit*							
26.	Quality Control*							

[1] N = 87.

* IOBC assessees are not assessed for this indicator.

the following areas: Formal Oral Communication, Written Communication, Working with Superiors, Organizational Ability, Directing Ability, Social Motivation, Use of Available Information, Decision Quality, and Tolerance of Stress.

Infantry Officer Advanced Course

Data for IOAC assessees appears in Table 4. The pattern of performance among IOAC assessees is that of relatively high performance which is somewhat more uniform across all indicators than is the case for the other groups.

Mean scores indicate clearly acceptable levels of performance in the following areas: Stress Tolerance, Directing Ability, Work Motivation, Facilitation of Subordinates, Decisiveness, Self-Confidence, Behavioral Flexibility, Informal Communication, Working with Superiors, and Positive Impression. At the other extreme, no clear-cut group deficiencies are indicated. However, need for improvement was found for 16 general indicators.

An examination of percentages shows that 25 percent or more of IOAC assessees are deficient on six general indicators as follows: Quality Control of Subordinate and Unit Performance, 51 percent; Developing Esprit, 40 percent; Support of Subordinates, 39 percent; Motivating Subordinates, 34 percent; Planning Ability, 32 percent; and Display of Initiative, 27 percent. In addition to the indicators just mentioned, 50 percent or more of IOAC assessees are deficient or need improvement in the following areas: Written Communication,

Table 4

General Indicator Scores for IOAC Assessees[1]

General Indicator	Percent of Assessees in Each Rating Class					Mean Rating	Standard Deviation
	Rating Class						
	5	4	3	2	1		
1. Informal Communication	9	58	29	4	0	3.65	0.51
2. Formal Oral Communication	9	42	43	6	0	3.43	0.63
3. Written Communication	9	32	53	6	0	3.37	0.60
4. Intellectual Ability	28	15	36	15	6	3.45	1.21
5. Creative & Innovative Ability	11	32	47	9	0	3.45	0.82
6. Interpersonal Effectiveness	0	41	51	8	0	3.36	0.57
7. Positive Impression	15	47	28	10	0	3.56	0.63
8. Influencing Others	0	25	60	13	2	3.10	0.66
9. Working with Superiors	9	47	42	2	0	3.60	0.55
10. Organizational Ability	4	36	38	22	0	3.15	0.62
11. Planning Ability	6	22	40	26	6	2.98	0.77
12. Directing Ability	45	40	15	0	0	4.12	0.68
13. Work Motivation	47	38	15	0	0	4.10	0.58
14. Social Motivation	6	38	49	7	0	3.32	0.55
15. Decisiveness	41	30	20	9	0	3.90	0.72
16. Use of Available Information	0	34	53	13	0	3.19	0.52
17. Decision Quality	9	42	40	9	0	3.50	0.56
18. Tolerance of Stress	58	25	17	0	0	4.24	0.61
19. Behavioral Flexibility	13	57	26	4	0	3.68	0.56
20. Self-Confidence	26	38	30	6	0	3.72	0.69
21. Display of Initiative	6	22	45	21	6	3.08	0.77
22. Facilitation of Subordinates	43	34	21	2	0	3.99	0.72
23. Support of Subordinates	34	21	6	28	11	3.42	1.38
24. Motivating Subordinates	11	13	42	26	8	2.88	0.96
25. Developing Esprit	26	21	13	19	21	3.16	1.35
26. Quality Control	6	21	22	32	19	2.72	0.93

[1] N = 87.

Interpersonal Effectiveness, Influencing Others, Organizational Ability, Social Motivation, and Use of Available Information.

DISCUSSION

The results of this study are clear. For certain student groups, consistent group deficiencies were found on some general indicators. Furthermore, in all groups sizable numbers of assessees were deficient on many indicators. The decision as to the percentage of entering students who must be deficient before curriculum additions or revisions are made is a matter of policy to be determined by appropriate Infantry School officials. However, it would appear that performance areas in which 25 percent or more of entering students are deficient would warrant special attention. For each student group, a number of such areas were identified.

The results of this study should prove useful as bases for curriculum planning and for monitoring student progress during terms of the respective classes. Furthermore, the results demonstrate the utility of assessment data for curriculum planning. Such data result from systematic evaluations made within controlled environments and, as such, they can be used with a considerable degree of confidence.

The most feasible use of the study results should be in connection with curriculum planning. Areas of actual performance deficiency and areas in which students merely require some improvement have been identified. Earlier reports in this series have identified blocks of instruction relevant for each leadership dimension. Use of such

information will make it possible to connect areas of identified deficiency with blocks of instruction pertinent to them. Such instruction can then be emphasized, reinforced, or strengthened in order to upgrade proficiency, especially in areas of greatest student need.

Differences Between Groups

Some differences were found which seem to indicate unique characteristics for student-assessees in the IOAC group. The greatest contrast between IOAC and other groups appears to be in the areas of Directing Ability, Decisiveness, Stress Tolerance, and Facilitation of Subordinate Performance. IOAC assessees also showed somewhat superior performance in the areas of Oral and Written Communication, Planning Ability, and Motivating Subordinates. These differences may be due to some combination of the following factors: (1) earlier training which students at the IOAC level may have received; (2) experience in military assignments; and (3) the selection processes functioning through Army career development program. Assessment results also show that all assessee groups are quite similar in Creative Ability, Interpersonal Effectiveness, Positive Impression, Organizational Ability, Social Motivation, and Decision Quality.

As far as the present study is concerned, these differences and similarities are of interest primarily because they can be interpreted as suggesting a certain type of validity in the indicator measures. That is, assessment scores differentiate between groups; but, there is

no obvious across-the-board "halo" effect for ratings of assessees in any one group. The pattern of similarities and differences also appears to have some face validity based on other knowledge of assessee population differences.

A comparison of performance between assessee groups suggests that there may be some question about the comparability of scores for some indicators. In particular, assessee performance is rated consistently lower for all groups in certain areas such as Planning Ability and Motivating Subordinates. It appears impossible to conclusively determine whether such scores are indicative of "real" performance or whether they are an artifact of conditions in the assessment process. However, it is certainly possible that assessees possess real deficiencies in these areas which appear in all three assessee groups. For example, the score for Motivating Subordinates is based entirely on assessee performance in the Controlled Simulation. Since the simulated environment structure is entirely different for each of the three assessee populations, it would seem unlikely that the consistently low ratings are due to uncontrolled factors which bias evaluations on this indicator in all three assessment situations.

In general, less reliability is required when assessment data are used to explore overall population strengths and deficiencies than would be necessary for use in the selection and counseling of individuals. The soundest approach is to interpret population assessment data in the light of additional information that is known about the

population. Thus, assessment results can frequently be compared with related training or job performance information. Judging from what is known about the assessed populations, most of the assessment results appear reasonable. For example, it should be expected that IOAC assessees would show the highest directing ability, ANCOES assessees the next highest, and IOBC assessees the lowest, and that this same general pattern should also apply to working with superiors.

Scoring Patterns

Some patterns can be seen within the general dimensions of leadership. For example, in Communication Skills, assessees tend to score highest in the informal area. There is also a fairly good contrast between assessment groups on the communication indicators, with IOAC assessees scoring consistently higher.

In Social Skills, little difference among assessee groups was found. Ratings for Positive Impression and Interpersonal Effectiveness are consistently higher than those for Influencing Others. The score for Influencing Others is based on a relatively large number of rating scales from several assessment exercises and is primarily concerned with observations of emergent leadership. The data suggest that this is an area in which many assessees need improvement.

In the Administrative Skills area, IOAC personnel scored very high in Directing Ability but their scores were moderate in both Organizational and Planning Ability, indicating some need for

improvement. ANCOES personnel were rated moderately high in Organizational and Directing Ability, but very low in Planning Ability. IOBC assessees were rated low in both Planning and Directing Ability.

The Planning Ability measure, which appeared to catch most assessees unprepared, is based on observations of planning and attention to detail on the part of assessees. Since the indicator reflects performance in four assessment exercises, its results cannot be lightly dismissed. Most assessees evidently showed little evidence of planning during the assessment problems. The possibility that this may be indicative of generally poor habits in administrative planning is worth serious attention by those who are responsible for training and career development.

In the Decision-Making area, all three groups scored moderately low in Use of Available Information. ANCOES and IOBC assessees also scored moderately low in Decisiveness, which is essentially an index of the timeliness of Decision Making. All three groups received moderately high scores for Decision Quality. In the assessment situation at least, assessees apparently overlook the possibilities of obtaining and using information which could be helpful in making decisions. This finding may be indicative of the usefulness of teaching systematic decision-making strategies which emphasize information seeking and handling.

In the area of Adaptability, assessees in all three groups tended to score moderately high in Behavioral Flexibility. IOAC personnel also

scored high in Stress Tolerance, but the scores for ANCOES and IOBC personnel were moderately low for this indicator.

All three groups appeared to be similar with respect to the dimension of Forcefulness, with scores for Self-Confidence being relatively high and scores for Display of Initiative relatively low.

In the area of Supervisory Skills, interpretation of the results is somewhat limited by the fact that not all groups were rated for each general indicator. Since each assessee group is being rated on entirely different performance in this dimension (because the dimension is based upon simulate behavioral checklist scales), a comparison of groups is not meaningful. There is a good deal of contrast between the scores on the general indicators in the Supervisory Skills dimension. Scores are generally high for Facilitation of Subordinates' Tasks and for Support of Subordinates, yet generally low for Motivating Subordinates. These appear to be similar behaviors, yet assessees are evidently not very responsive to situations which present the opportunity to reward or otherwise motivate subordinates even though they are responsive to opportunities to facilitate and support subordinates.

Implementation of Results

The assessment results, when combined with knowledge of job requirements, serve the purpose of documenting needs for training in various areas of leadership performance. However, in determining training requirements, the level of performance required by a job

must be weighted with the level of performance demonstrated by assessees. If, for example, job requirements indicate the necessity for a high degree of administrative planning skill for IOAC graduates, and assessment results indicate that prospective IOAC personnel perform poorly in this area, then a high priority training need might be established. Conversely, the presence of an assessed deficiency does not in itself imply a high-priority training need if the degree of skill required on a job is not high. For example, ANCOES assessees may show deficiencies in writing skills, but an examination of job requirements might indicate that the demand for this skill is not high, thus tempering training need.

As stated in an earlier section, the results of assessee performance reported in this study should be used with knowledge of relevant instructional context. The relevance of instructional content to the various leadership dimensions has been described in other reports of this series. Taken together, knowledge about both assessment results and instructional content should be useful additions to the process of curriculum planning.

Chapter 4

USE OF ASSESSMENT TECHNIQUES IN LEADERSHIP TRAINING

Task II, Evaluate Potential Uses of Assessment Methods for Training Purposes, was designed in two phases. The first phase, summarized in Chapter 2, was devoted to analyses of assessment exercises used by the Assessment Center and of methodologies underlying the exercises to determine their potentials for use in leadership training. Based upon findings of the first phase, ARI and HumRRO personnel jointly selected two assessment methods to be adapted and evaluated as training techniques.

Phase 2 was programmed to include development of a leadership training program using the two methods and evaluation of the program. The results of Phase 2 are reported in this chapter.

APPROACH

A principal requirement of a leadership training program is that the learning derived from the program be applicable to a variety of leadership situations. Therefore, it was decided that the training program should be focused upon broad leadership dimensions, with the intent of equipping students with knowledges and skills common to many leadership situations.

Experience in the leadership training area has shown that effective leadership performance depends upon both knowledge of the appropriate behavior and skill in performing that behavior. Accordingly, the program was designed to provide both requisite

conceptual knowledge and opportunities for application of the concepts in practical exercises, with subsequent feedback and critique of student performance.

Two assessment exercises were selected as having maximal potential for training purposes. These were:

1. The In-Basket Exercise.
2. The "Emergency" Controlled Simulation.

It was judged that participation in either or both of these exercises would provide students with a valuable opportunity to practice application of leadership concepts and, thereby, to improve their skills in selected aspects of leadership.

By agreement between the HumRRO Project Director and the ARI Contracting Officer's Technical Representative, it was decided that the program should be oriented toward training of senior ROTC students and newly commissioned junior officers. It was judged that personnel at these levels would most benefit from the types of training that were contemplated.

Identification of Leadership Dimensions

The next step was identification of leadership dimensions pertinent to each of the exercises. The leadership dimensions relevant to the selected assessment exercises are presented below:

Assessment Exercise	Leadership Dimension
In-Basket	Social Skills Communication Skills Decision Making Administrative Skills Supervisory Skills

Assessment Exercise	Leadership Dimension
"Emergency" Controlled Simulate	Communication Skills Decision Making Administrative Skills Supervisory Skills Organizational Role Skills

There is obviously a considerable amount of overlap among the dimensions relevant to each of the two exercises.

Specification of Terminal Training Objectives

Terminal training objectives are broad statements of performances to be accomplished upon completion of training. For the training program discussed in this report, multiple terminal objectives relevant to each of the above leadership dimensions were derived. The resulting objectives follow.

1. Decision Making
   a. In a written examination, correctly lists the steps in the decision-making process.
   b. Given a situation requiring that a decision be made:
      (1) Identifies at least three alternative courses of action.
      (2) Develops a set of (at least four) criteria against which the various alternative courses of action can be assessed.
   c. As a unit commander given a situation requiring that a decision be made, commander's guidance, and the problem statement:
      (1) Identifies the pertinent facts bearing on the problem.

(2) Specifies three alternatives which solve the problem.

(3) Analyzes the principal advantage and disadvantage of each alternative.

(4) Selects a course of action.

(5) Accomplishes the above activities within a specified time frame.

2. Organizational Leadership Role Skills

In a written examination, demonstrates knowledge of factors that affect communication within an organizational hierarchy by listing at least five factors that affect each of the following processes:

a. Upward communication.

b. Downward communication.

3. Social Skills (Interpersonal Competence)

a. In a written examination, demonstrates a knowledge of both effective and ineffective behaviors in influencing others by listing at least five effective and five ineffective behaviors observed while viewing a videotaped group discussion.

b. Given a case study describing an episode representative of one which could occur in a small military unit, analyzes the situation and correctly identifies the cause of the problem.

c. Given three descriptions of interpersonal situations, analyzes each situation and selects the most appropriate behavior from a list of alternative behaviors. At least two-thirds of the selected behaviors must be on a list developed by a panel of behavioral scientists.

4. Communication Skills

a. In a written examination, lists seven factors which must be considered in preparing a well-written "after-action" report. Each of the factors must appear in the "Reports" section of the Student Text.

b. Given participation in one of the training exercises, develops an "after-action" report which, in the judgment of a panel of experienced officers, accurately and concisely describes the major points of the exercise.

5. Administrative Skills

a. As a unit commander given a list of two tasks, and resources (both materiel and personnel) appropriate for a small military unit, outlines a plan for accomplishing each task. The plan for each task must include at least six of the eight elements found in the "Elements of Planning" section of the Student Text.

b. Given a series of three vignettes concerning activities common to a small military unit, he:

(1) Identifies at least one basic principle of organization involved in each.

(2) Analyzes each vignette in writing as to how the identified organizational principle is involved.

c. Given a case study which includes the following factors: specification of an assigned task, identification and a short history of the individual to whom the task was assigned, and a description of the individual's task accomplishment activities, the student analyzes the case in writing and states:

(1) Whether the task was sufficiently defined when assigned to the individual.

(2) Whether feedback indicating adequate understanding was elicited from the individual at the time of mission assignment.

(3) Whether any guidance needs to be provided, and, if so, what form the guidance should take.

The student's analysis will be compared with one consensually developed by a panel of

experienced military officers and behavioral scientists. Complete agreement with respect to the following major points will be required:

(a) Whether the task was sufficiently defined.

(b) Whether adequate feedback was elicited.

(c) Whether guidance needs to be provided.

6. Supervisory Skills

a. Given two vignettes concerning activities within a small military unit, analyzes each vignette in writing and identifies at least two effective and two ineffective supervisory behaviors in each.

b. Given a case study which includes the specification of an assigned task and a description of the individual's task accomplishment activities, the student analyzes the case in writing and states:

(1) Whether the performance standards were adequately defined for the subordinate.

(2) Whether or not, based on current degree of goal attainment and factors impinging upon progress, the superior should become involved in facilitation of mission accomplishment.

The student's analysis will be compared with one consensually developed by a panel of experienced officers and behavioral scientists. Complete agreement with respect to the following major points will be required:

(a) Whether performance standards were adequately defined.

(b) Whether the superior needed to become involved or not.

Development of Program and Materials

The basic purpose of the program to be developed was to train students to effectively perform skills reflecting selected aspects of leadership.

Since the principal objective was utilization of assessment methods for skill development, the program was developed with the two selected exercises as the principal components. For maximal learning, post-performance feedback and critique periods were made integral parts of the program. In addition, it was concluded that mere experiencing of the exercises would not provide sufficient structure for learning. It was judged that students would need some conceptual framework for approaching the practical exercises. Accordingly, the final plan for the course involves 3-1/2 hours of lecture-discussion covering basic conceptual material. The remainder of the course includes two exercises, with critique and summary sessions for each. Students are given feedback concerning the effectiveness of various leadership behaviors and how each relates to the dimensions of leadership.

Training materials consist of a Student Text and an Instructor's Manual. The Student Text provides discussions of required leadership concepts, while the Instructor's Manual contains complete guidance for conducting the program. Materials for conducting the two practical exercises are the same as those required for their use as assessment exercises and are obtainable from the U.S. Army Infantry Assessment Center.

Evaluation Plan

A plan for evaluating the training program was also developed. The evaluation was designed to accomplish two objectives. These were:

(1) To objectively evaluate the effectiveness of the course for achieving the terminal training objectives.

(2) To determine subjective student reactions to the structure and content of the course.

The evaluation design requires three groups of 10 individuals each. The first group would serve as a control group and, accordingly, would not receive training but would be exposed to the evaluation instruments. The second group would receive instruction in the conceptual content and would participate in the In-Basket exercise. The third group would receive instruction in the conceptual content and would participate in the Controlled Simulation (Emergency). Both experimental groups would be evaluated. In this way, it would be possible to determine the training efficacy of each assessment method separately.

Evaluation Materials

In order to achieve the objectives described above, some additional materials and procedures which have not previously been described were required.

Training Course Evaluation Form. Procedures were developed to provide objective measurement of students' achievement of the terminal training objectives. A total of three hours was designated as the required time for administration of materials supplementing these procedures.

An Evaluation Form to be provided to students in the form of a booklet is shown in Appendix B. After distribution of the booklet, the instructor should obtain feedback from the student group to insure that the assignment is uniformly understood. As soon as this has been ascertained, the three-hour time period should be initiated. Students should be informed that breaks are allowed, but discussion of the task is not permitted.

Scoring Procedures for the Evaluation Form. The written student products can best be scored by content analysis procedures. Therefore, concurrently with development of the Evaluation Form, protocols for evaluating student responses relative to terminal training objectives were developed. These protocols list the points which should be included in each response and set the criteria which should be satisfied as the standard of achievement of that training objective. Two scorers, working independently, are assigned the task of reading

each student product and evaluating it according to the protocol specifications. For each training objective, the student received credit for each required point which was included in the response. The maximum number of possible points which could be received corresponded to the number of responses necessary to satisfy the criteria associated with that objective. Cases of significant disagreement between the two scorers are resolved through discussion following the completion of scoring for all students. The protocols are presented in Appendix C.

Student Course Evaluation Form. A procedure was developed to obtain student reactions to the course. A survey form was constructed for administration immediately following completion of the evaluation test. This form is shown in Appendix D. The first three items on the form are rating scales designed to obtain students' opinions of (1) the value of the course to someone preparing to enter active duty; (2) the degree of "professionalism" of the course; and (3) how interesting the student found the experience to be. A final item, which used an open-ended format, requested the student to identify that aspect of the course which he found least interesting and to describe the reasons behind this judgment.

RESULTS

The Training Program

The principal product of the project is a training program entitled "Selected Aspects of Leadership." The program was designed to be conducted by one instructor; however, if an assistant instructor is also available, the load will be less and the training will be materially improved because two instructors can more effectively deal with the requirements of the course. In addition, the Controlled Simulation (Emergency) requires three controllers for every two students participating.

A substantial portion of the program is oriented toward training exercises or "hands-on" work. In the initial portions of the program, concepts pertaining to leadership are covered and different types of leader behavior are discussed. These early periods insure an adequate knowledge base concerning relevant aspects of leadership.

The total program is 19-1/2 hours in length; however, either one of the training exercises may be omitted if the instructor desires. The lecture-discussion periods may be conducted either continuously or in periodic blocks. Throughout, trainees are required to study portions of training materials prior to each session.

An outline of the program follows:

TRAINING SCHEDULE

Legend:
LD - Lecture-Discussion
TE - Training Exercise
C - Conference

Period	Time	Topic	Method	Training Notes	Instructor's Notes
1	30 mins.	Introduction to Course Purpose Instructions to Students Student Preparation	LD	1	
2	45 mins.	Decision Making	LD	2	1
3	45 mins.	Supervisory Skills	LD	3	2
4	25 mins.	Social Skills	LD	4	3
5	20 mins.	Communication Skills	LD	5	4
6	30 mins.	Administration Skills	LD	6	5

(Continued)

TRAINING SCHEDULE (cont'd)

Period	Time	Topic	Method	Training Notes	Instructor's Notes
7	15 mins.	Organizational Leadership Role Skills	LD	7	6
8		Administrative Simulation (In-Basket)		Appendix B	
	3 hours	a. Administration	TE		
	2 hours	b. Critique	C		
	1 hour	c. Summary	LD		
9		Controlled Simulation		Appendix C	
	3 hours	a. Administration	TE		
	2 hours	b. Critique	C		
	1 hour	c. Summary	LD		
10	2 hours	Summary and Conclusions	C		

Of the 19-1/2 hours required to conduct the program, 3-1/2 hours are lecture-discussion, 8 hours are given to training exercises, and 8 hours are devoted to critique and summary.

Upon completion of the training, students will be familiar with selected aspects of leadership and effective leadership behavior relevant to them.

Training Materials

Materials required for conducting the training are (1) a Student Text: Selected Aspects of Leadership, (b) an Instructor's Manual for Selected Aspects of Leadership, and (c) material pertaining to the conduct of each training exercise. The Student Text and the Instructor's Manual have been delivered to the ARI Contracting Officer's Technical Representative as research by-products.

Student Text. The student text is designed to serve as both a volume for student reading during the course and a reference for use after completion of training. The Table of Contents for the text is shown in Appendix E. Preferred procedure is to issue the text to students at least 24 hours before beginning the course and make advance reading assignments as appropriate for the program schedule.

Instructor's Manual. The instructor's manual is designed for use solely by instructors and provides all guidance for conducting the course. It contains a discussion of the purpose and orientation of the program; topic outlines for all lecture-discussion sessions; guidance for conducting the training exercises, an outline of the training schedule, by period of instruction, to include training notes for each period; support requirements; detailed guidance for conducting critique summary sessions; and an appendix containing pointers for conducting group discussions. The Table of Contents for the instructor's manual is shown in Appendix F.

Exercise Materials. The materials for the two training exercises are not included in the documents developed for this project. All necessary materials for each exercise are in the custody of the U.S. Army Infantry School Assessment Center. Each set of material is self-contained and, together with the student text and the instructor's manual, comprise the documents required for conduct of this program.

Pilot Test

Subjects. The subjects selected to participate in the pilot test of the training program were newly commissioned second lieutenants assigned to attend the Infantry Officer Basic Course (IOBC) at Fort Benning, Georgia. With one exception, all of the participants were ROTC graduates who, by virtue of their Distinguished Military Graduate or Distinguished Military Student status, had been offered and accepted a Regular Army commission. The single exception was an individual currently fulfilling the requirements associated with an enlisted reserve commitment. Twenty-three subjects participated in the pilot test.

Pilot Test Design. The 23 subjects were divided into two groups, experimentals and controls. The experimental group participated in the training program which included the initial lecture-discussion phase, one of the two training exercises, the critique and feedback session, and the summary phase. Both groups completed the post-training evaluation questionnaire developed to assess program effectiveness. Ten of the experimental subjects received the in-basket exercise and four participated in the "emergency" controlled simulation. Only four subjects participated in the simulation because of the limited availability of controllers (two per subject) required to conduct the simulation exercise. Where appropriate, results for these three groups will be presented separately in the remainder of this chapter.

Instructor Evaluation. To the greatest extent possible, the instructor attempted to evaluate the program and materials from the point of view of an instructor employing the materials for an initial presentation of the course. The results of this evaluation were that several modifications, designed to improve clarity and usability, were made in the Instructor's Manual.

The conclusion concerning the Student Text was that a qualified instructor can prepare himself adequately for all scheduled lecture-discussion periods by adhering to the recommended lesson outlines and using the Student Text as the sole reference source.

Student Reactions. Data from the course evaluation form completed by the students at the end of the training program show that the course elicited a generally positive reaction. Figure 1 displays a profile of mean class ratings of (1) potential value of the course, (2) organization of the course, and (3) intrinsic interest.

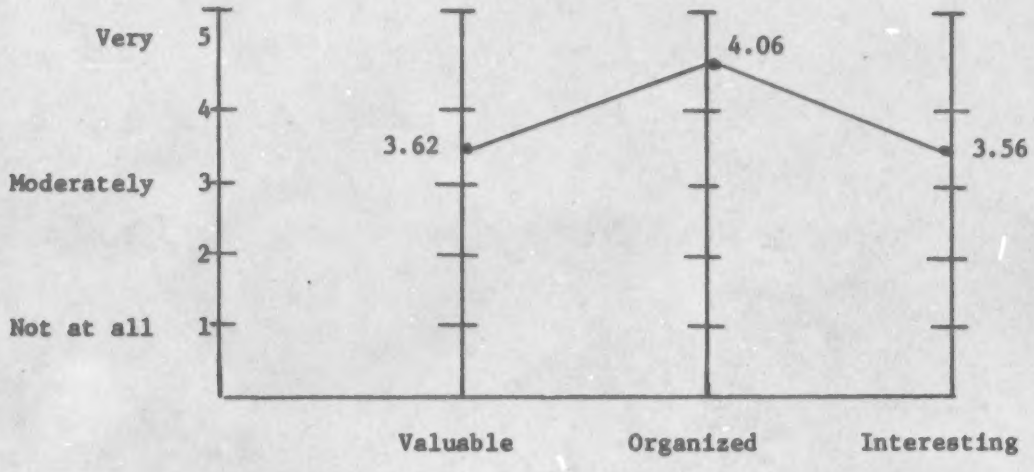

Figure 1. End-of-Course Ratings by Students

The three scaled items presented the students with the opportunity to be either critical or favorable in their global evaluation of the course under conditions where anonymity of opinion was preserved. The profile indicates moderately positive overall impressions of the course by the students. By design, the fourth and final item in the survey employed an open-ended format and requested the student to be critical and describe those aspects of the course he found least interesting, regardless of the overall interest value of the course. The intent was to discover any needed revisions in course design or content which would neutralize student objections without jeopardizing achievement of the objectives of the course.

Study of the responses to Item 4 revealed that the course aspect most often described as "least interesting" was related to the length of the periods where the lecture-discussion method was used exclusively. This type of comment resulted in the decision to substantially reduce the time allotted for the lecture-discussion period from 7-1/2 hours as originally planned to the 3-1/2 hours shown in the training described earlier. Thus, after modification, total time for the program is 19-1/2 hours, a reduction of 4 hours. Since the purpose of the lecture-discussion is to insure that students possess a base level of knowledge concerning the conceptualization of selected aspects of leadership, it was felt that any further reduction of time would not be advisable.

Comments of several students indicated a perceived redundancy between the Student Text and various materials to which the students were exposed during their senior year of ROTC. This comment was interpreted as indicating that future students should either be senior ROTC students or junior officers who have not had ROTC training.

Evaluation. Results for the training objectives will be presented in the order in which the objectives were listed earlier in this chapter. The relevant leadership dimension will also be listed for each objective. Results for each of the two experimental groups and the control group will be presented separately for each objective. As explained in Appendix C, Description and Scoring Procedures for the Criteria, the number of correct responses for each objective was determined for each student. Mean correct responses for each group constitute the dependent variable. Summary results pertaining to the training objectives are shown in Table 5.

As a class, students who participated in the training program scored substantially higher than the individuals in the control group with regard to achieving the specified terminal training objectives.

Because of the small sample sizes, it was concluded that parametric statistics would be inappropriate for testing differences between the three groups. Accordingly, a nonparametric statistic, the sign test (Siegel, 1956), was used to test differences between groups on achievement of the objectives. Each experimental group

Table 5

Evaluation Results

Terminal Training Objective	Leadership Dimension	Maximum Possible Score	Mean Correct Responses		
			Experimental		Control
			In-Basket (n=10)	Simulation (n=4)	(n=9)
1a	Decision Making	6	5.3	5.8	3.0
1b		7	4.8	6.8	2.4
1c		10	5.8	9.8	3.4
2a	Organizational Leadership Role Skills	5	3.8	3.2	2.4
2b		5	3.0	2.5	0.1
3a	Social Skills	10	6.5	7.0	3.7
3b		1	0.6	0.2	0.3
3c		3	2.7	2.0	2.4
4a	Communication Skills	7	4.8	5.0	3.4
4b*		1	0.7	0.8	N/A
5a	Administrative Skills	12	8.7	8.0	4.4
5b		3	1.1	1.2	0.9
5c		2	1.6	2.0	0.9
6a	Supervisory Skills	8	6.6	6.8	3.5
6b		1	0.9	0.8	0.1

*The control group was not required to respond to the question dealing with this objective.

was compared with the control group and the two experimental groups were also compared. In each comparison, a determination was made as to which of two groups had a higher mean score for each objective. A plus (+) was assigned an objective when the first group had a higher mean score and a minus (-) was assigned where the mean score of the second group was higher. After signs were assigned to each objective, the number of fewer signs was determined and the appropriate table was consulted. If the hypothesis of no difference between the two groups were true, about half the differences would be positive and half would be negative. The null hypothesis would be rejected if too few differences of one sign occurred.

The comparisons made with the sign test were used to determine whether or not one group consistently outperformed another and to ascertain the associated probabilities. A significant result would indicate that, across the objectives, one group consistently had higher mean scores than the other.

A comparison of the performance of the control group with that of the experimental group which participated in the in-basket exercise indicated a significant performance difference between the two. The experimental group performed at a higher level on the objectives significantly more often ($p < .001$) than did the control group.

When the performance of the control group was compared with the experimental group which participated in the controlled simulation, the results indicated that the experimental group had higher scores significantly more often ($p \leq .002$) than the control group.

The final comparison between the performance of the two experimental groups showed no significant difference in the frequency of achieving a higher performance level on the training objectives.

These results indicate that the control group consistently performed at a lower level on the training objectives than did either of the two experimental groups. However, the small size of the groups, especially the experimental group which participated in the controlled simulation, should be taken into consideration when interpreting these differences.

DISCUSSION

The findings of the program evaluation indicate that participation in the training program results in higher performance on the terminal training objectives. However, the small sample sizes, especially in one of the experimental groups, lessen the reliability associated with observed differences. The extent to which such differences would be increased or diminished as a function of increased sample size cannot be estimated on the basis of available data.

The observed differences between the experimental groups and the control group could have been influenced to some extent by the evaluation method which was used. Since the evaluation questionnaire is not a performance test, it measures the cognitive (knowledge) more heavily than the behavioral (skill) component of leadership. This emphasis could be interpreted as favoring the group which was exposed to the conceptual material, i.e., the experimental group. However, in this

case, several factors appear to contradict the position that such a bias was the cause of the observed differences. First, several of the comments elicited by Item 4 of the course evaluation form indicate that conceptual material included in the program was perceived by many students as redundant with leadership material taught to them during their senior year of ROTC. This is not surprising since the conceptual material developed for this program was adapted from existing leadership doctrine and training literature and, accordingly, should be familiar to ROTC graduates. Since members of both the control and experimental groups were ROTC graduates, control subjects were not unfamiliar with the concepts and, therefore, differences between the groups can be attributed to the combined effects of the conceptual presentations and the assessment exercises.

A second and related factor pertinent to an interpretation of the observed group differences concerns the subjects. The subjects, both experimental and control, were all drawn by chance from the same population--ROTC graduates classified as either Distinguished Military Student (DMS) or Distinguished Military Graduate (DMG) and who had accepted an RA commission in the Army. These students represent a select group and, as such, would be expected to be more familiar with the ROTC material pertaining to leadership than are the majority of ROTC graduates.

The two factors specified above would seem relevant to any interpretation of the observed group differences. These factors

indicate that it is not likely that the differences among the groups are due primarily to a bias introduced by the evaluation methodology. On the contrary, in light of the particular subjects and their backgrounds, it is quite likely that, if the experimental and control groups were comprised of randomly selected ROTC students, the observed differences would be much larger than those obtained in this pilot test.

Based on the cited results, it can be concluded that the overall objectives of this project--to develop and evaluate a program and materials for training selected personnel in improved performance of various leadership behaviors--were accomplished. The program and materials provide effective means for improving selected leadership capabilities of program participants. The responses and opinions of the subjects in the pilot test of the program were used to identify the student population for which this program will be most productive. The two identified populations are (1) senior ROTC students and (2) junior officers who have not participated in ROTC.

The technical expertise requirements for instructors to conduct the course are minimal. The program can be adequately conducted by anyone with academic training in behavioral science. An advanced degree in behavioral science will, of course, result in a more effective program.

Chapter 5

A MODEL FOR DESIGNING ASSESSMENT EXERCISES

Task IV was devoted to development of a model for use in the design of assessment exercises. For this task, the fundamental question was, "How can situational tests be designed such that assessees will display behavior that is observable, scorable, and relevant to the purposes for which the tests are constructed?" The objective was to develop a model which would incorporate the numerous factors to be considered and controlled and would provide a procedure for integrating them into exercises capable of obtaining the desired results. This chapter describes the various steps in development of the model and includes a discussion of potential uses of it.

BACKGROUND

For this report, "assessment" is defined as the use of systematic information to evaluate an individual or a group for a specific purpose. Although methods used for assessment may differ, all are based upon a common process which includes the following elements: (1) obtain samples of behavior; (2) measure the behavior; (3) evaluate the behavior; and (4) interpret the results according to the specific purpose of the assessment.

PURPOSES OF ASSESSMENT

The results of an assessment may be used for one or more of the following purposes:

(1) Selection and Placement. Assessment results are frequently used to screen potential candidates for promotion or assignment to particular jobs, or for determining which among several jobs is most suitable for a candidate (placement). The results may also be used for selecting students for educational courses or training programs. Thus, in selection and placement, assessment results are used to predict success or failure in a specific context such as a job or educational course.

(2) Quality Control. Assessment results may also be used to evaluate individuals, procedures, or training programs for quality control purposes. As opposed to selection and placement, where assessment results are used to predict future performance, the purpose of assessment for quality control is to determine the level of current performance. Assessment is often used to evaluate the success of a training program in achieving its objectives. It may also be used to evaluate the current proficiency of individuals in particular jobs. In both instances, the emphasis is upon the measurement of current levels of achievement rather than the prediction of future accomplishment.

(3) Counseling and Development. Another use of assessment results is in counseling personnel to assist them in their future development. For counseling purposes, current strengths and weaknesses of an individual are identified so that assistance may be provided in determining the knowledges, skills, and attributes which should be acquired or developed to enhance future performance and career progression.

SITUATIONAL TESTS

Within the context of assessment centers, the predominant means for evaluating assessees are so-called "assessment exercises." These exercises are, in effect, situational tests. That is, one or more individuals are placed in some performance situation where they are required to execute a task, solve a problem, or interact with other people toward an objective. Their behavior is observed in some systematic fashion and is evaluated according to an organized framework which permits conclusions concerning their standings in relation to other individuals or in comparison with absolute criteria of performance.

The fundamental purpose of this task was to develop a model which will enable designers of assessment exercises to evoke behavior on the part of assessees that will contribute to one or more of the assessment purposes discussed above. To accomplish this purpose, it was necessary to, first, develop a scheme for classifying the behavioral processes

most likely to be evaluated in assessment situations. Second, it was necessary to identify situational factors that facilitate assessees' performance and influence the ways in which their assessible behavior is manifested. After the classification scheme was developed and the facilitating factors were identified, it was possible to develop a model to be used in analyzing the demand characteristics of assessment situations and insuring that such situations have been structured so as to evoke assessible behavior.

CLASSIFICATION SCHEME

A necessary prerequisite to the development of a model by which assessment exercises can be designed is the identification of explicit dimensions or processes most likely to be evaluated. A conceptualization of these processes and the logical relationships among several levels of abstraction of behavior are discussed in the classification scheme which follows.

LEVELS OF CLASSIFICATION

To develop the classification system, the approach was to begin at the most general and abstract level of behavior. After specification of appropriate and comprehensive categories, the next most abstract level was considered. Four levels of abstraction were reviewed and included in the scheme.

The levels of classification, with brief definitions, follow. Each element is discussed in detail later.

(1) Skill Area--Skills are generally viewed as consisting of either "soft" or "hard," designations which derive from the degree of the behavior and the structure of the situation. However, a review of the skills typically evaluated in assessment programs reveals that these two terms do not include all relevant attributes of the individual. Accordingly, a third area was established relating to "personal predispositions." Thus, hard skills, soft skills, and personal predispositions comprise the three skill areas used in the classification scheme.

(2) Process Function--The several process functions reflect different aspects of interaction with the environment. The same process functions may occur in a variety of contexts.

(3) Process--A process represents a specific strategy for implementing a certain process function.

(4) Indicator--An indicator is inferred from one or more specific behaviors which are observable manifestations of a process.

The elements that comprise each level are discussed in the sections which follow. Table 6 summarizes the principal elements of the classification scheme; however, indicators for the various processes are not

Table 6

Classification Scheme

Skill Area	Context of Performance	Process Function	Process
Soft Skills	Interpersonal	Sensing	Information acquisition Information processing Problem analysis Interactive diagnostic competence
		Coping	Information transmission Decision making Implementing decisions Supervision Organizational role performance Interactive action competence
		Communicating	Oral communication
	Indirect	Sensing	Information acquisition Information processing Problem analysis
		Coping	Information transmission Decision making Implementing decisions Administration Organizational role performance
		Communicating	Written communication
Personal Predispositions	Internal	Personality	Adaptability Behavioral style Consideration Intellectual competence Motivation Tolerance for ambiguity
Hard Skills	Task-Defined	Sensing	Information acquisition Information processing Problem analysis
		Coping	Information transmission Decision making Implementing decisions Psychomotor behavior
		Communicating	Written communication Oral communication

shown. Table 7 shows the processes and their respective indicators. Frequent reference to these tables will assist understanding of the discussion to follow.

Table 7

Principal Indicators of Behavioral Processes

Process	Indicator
Interpersonal Context	
Sensing Function:	
Information acquisition	Identifying a requirement for information Detecting the availability of information Identifying information source(s) Eliciting information
Information processing	Relating discrete items of information Identifying relevant information Organizing information into appropriate form Extrapolating or interpolating on the basis of information received
Problem analysis	Determining type of problem Determining scope of problem Identifying candidate causal factors
Interactive diagnostic competence	Selecting relevant interpersonal cues Interpreting relevant interpersonal cues
Coping Function:	
Information transmission	Selecting relevant information for transmission Organizing information to be transmitted Identifying information consumer Transmitting information

(Continued)

Table 7 (cont'd)

Process	Indicator
Decision making	Using available information Selecting one from alternative courses of action Selecting a course of action within given time frame
Implementing decisions	Selecting method of operationalizing a decision Obtaining feedback on effectiveness of decision and implementation method Eliciting acceptance and support of others
Supervision	Providing instructions on task accomplishment Defining expectations for subordinates Motivating subordinates Establishing effective work climate Controlling quality of subordinate output Using staff Supporting subordinates Representing subordinates to higher organizational levels
Organizational role performance	Implementing decisions of others Functioning as subordinate to hierarchical situations Using formal channels of communication Identifying occasions for use of informal channels of communication Working with peers Functioning in interracial situations Eliciting the acceptance by subordinates of the decisions and instructions of higher organizational levels
Interactive action competence	Selecting behavior strategy in an interactive situation
<u>Communicating Function:</u> Oral communication	Presenting formal oral communication Transmitting and receiving informal oral communications

(Continued)

Table 7 (cont'd)

Process	Indicator
Indirect Context Sensing Function:	
Information acquisition	Identifying a requirement for information Detecting the availability of information Identifying information source(s) Obtaining information
Information processing	Relating discrete items of information Identifying relevant information Organizing information into appropriate form Extrapolating or interpolating on the basis of information received
Problem analysis	Determining type of problem Determining scope of problem Identifying candidate causal factors
Coping Function:	
Information transmission	Selecting relevant information for transmission Identifying appropriate information consumer Determining appropriate format for information presentation Transmitting information Organizing information
Decision making	Using available information Selecting one from available courses of action Selecting a course of action within a specified time frame
Implementing decisions	Developing methods and procedures for implementing decisions Specifying methods for obtaining feedback on the effectiveness of decision(s) and their method(s) of implementation Issuing written instructions concerning implementation methods and/or feedback procedures

(Continued)

Table 7 (cont'd)

Process	Indicator
Administration	Specifying the sequencing of intermediate goals and tasks Determining time requirements for tasks Developing plans which recognize long-range as well as short-range requirements Assessing and utilizing organizational resources Coordinating actions of individuals and groups Determining organizational requirements Assigning task responsibility and delegating authority Identifying responsibilities which should be delegated Identifying the impact of previous actions, instructions, or decisions on the internal and/or external environment of the organization
Organizational role performance	Implementing decisions of others Functioning as subordinate in hierarchical situations Using formal written channels of communication Identifying occasions for use of informal written communications
Communicating Function: Written communication	Using an adequate vocabulary Organizing material and structuring sentences Formatting documents Completing forms
Internal Context Personality Function: Adaptability	Adjusting to stress Functioning in conflictful situations Altering behavior to situational demands

(Continued)

Table 7 (cont'd)

Process	Indicator
Behavioral style	Displaying self-confidence Behaving energetically Displaying initiative Accepting or assuming responsibility
Consideration	Assigning priorities to the rights of others Demonstrating awareness of others
Intellectual competence	Demonstrating general competence Displaying skill in manipulation of abstract concepts Demonstrating a grasp of theoretical and/or operational principles
Motivation	Displaying work concentration and high work standards Demonstrating willingness to work with others Demonstrating a concern for task success and a desire to do well
Tolerance of ambiguity	Demonstrates a consistent level of performance in unstructured situations Demonstrates a capacity to function in an unstructured situation without seeking additional guidance
Task-Defined Context Sensing Function:	
Information acquisition	Identifying a technical requirement for information Identifying technical information source(s) Detecting the availability of technical information Obtaining technical information
Information processing	Relating discrete items of information Identifying technically relevant information Organizing information into appropriate forms Extrapolating or interpolating on the basis of information received

(Continued)

Table 7 (cont'd)

Process	Indicator
Problem analysis	Determining type of technical problem Determining scope of technical problem Identifying candidate causal factors
Coping Function:	
Information transmission	Selecting relevant technical information for transmission Identifying information consumer or location Transmitting information
Decision making	Using available technical information Selecting one from available courses of action Selecting a course of action within a specified time frame Using available information for inventory of the environment
Implementing decisions	Identifying or developing technical methods for operationalizing decisions Specifying technical procedures for operationalizing decisions Obtaining feedback on effectiveness of decision and implementation method
Psychomotor behavior	Demonstrating reaction time Displaying hand-eye coordination Demonstrating fine motor control
Communicating Function:	
Written communication	Using an adequate technical vocabulary Completing forms Organizing material and structuring sentences Formatting documents Reading technical material
Oral communication	Using an adequate technical vocabulary Transmitting and receiving informal oral technical communications Presenting formal oral communication

CONTEXT OF PERFORMANCE

Since processes occur within a variety of organizational settings, the developer of an assessment exercise must also consider the context of performance. This consideration is reflected by inclusion of a dimension labeled "context of performance" in the classification scheme. The four levels of abstraction occur within several different contexts of performance

SKILL AREA

Skills are here classified as belonging either to the "soft" or "hard" skill areas or to a class designated as "personal predispositions." Three dimensions are conceptualized by Whitmore and Fry (1972) as the criteria for determination of the appropriate designation for a given skill:

(1) Degree of interaction with a machine.

(2) Degree of specificity of the behavior to be performed.

(3) Type of on-the-job situation.

Each of these dimensions is briefly discussed below.

The degree of interaction with a machine ranges from the machine-ascendant system in which an individual constantly operates a machine to the man-ascendant system in which the individual manipulates machines, forms, or symbols only in the abstract.

The specificity of the behavior to be performed also includes the amount of definition which can be provided for the process in question.

Another factor in this dimension is the extent to which a skill can be applied to a particular job. At the most specific extreme in this range is a case in which both the behavior and its application to a particular job can be explicitly stated. The least specific extreme involves an instance in which the behavior, action, or process is only implied by a given context, and the job application can be described only in general terms. For example, a requirement that a leader be able to motivate subordinates when the situation calls for it may be implied but not specified for a particular job.

On-the-job situations may be located on a continuum from established to emergent. An established situation involves accurate knowledge of physical and social environments and of the consequences of alternative courses of action. In an emergent situation, such information is not completely known. Uncertainty is generally associated with job functions in an emergent situation.

The three skill areas defined in this classification scheme are discussed below with the performance contexts with which they are most frequently associated.

Soft Skills

In general, soft skills may be characterized as those whose performance frequently involves the development of a heuristic strategy in an ill-defined context. They are man-ascendant, lack specificity, and/or frequently are embedded in emergent situations.

The context in which an individual performs job functions dictates to some degree the skills and abilities critical to effective performance.

Interpersonal context. The interpersonal context subsumes all soft skills whose performance involves direct interaction with others. It is more difficult to specify the existing conditions for this context than for any of the others. However, the skills relevant to this context of performance represent those most critical to leadership ability (Jacobs, 1973).

1. Sensing. The process function designated as "sensing" in the interpersonal context involves obtaining and assimilating information from others about the environment.

a. Information Acquisition - This process includes all activities of the individual which are focused on the identification of information sources and eliciting required data from others in the situation.

b. Information Processing - All activities dealing with review, selection, elimination, or assimilation of information acquired from others are included in this process.

c. Problem Analysis - The activities included in this process involve application of a strategy in the interpersonal situation to determine the type and scope of the problem and to identify causal factors.

d. Interactive Diagnostic Competence - These activities involve the accurate identification and weighting of selected relevant cues emitted by another or others during interaction.

2. Coping. Coping, within an interpersonal context, subsumes all processes that involve dealing in some way with the interpersonal aspects of the environment.

a. Information Transmission - Activities included in this process pertain to the organization, scope, and content of an item or items of information to be transmitted orally from one individual to another. Selection of the information target is also included here.

b. Decision Making - The activities involved in this process relate to the selection of a course of action from several alternatives during interaction with others.

c. Implementing Decisions - This process involves all necessary activities for operationalizing a decision in an interpersonal context.

d. Supervision - The activities included in this process are those involving direct contact with subordinates or representation of subordinates to others.

e. Organizational Role Performance - The activities subsumed by this process are those performed by an individual in an organizational interpersonal context in the course of satisfying his own expectations, those of the organization, and those of subordinates.

f. Interactive Action Competence - Activities in this process pertain to the selection from the actor's repertoire of an effective interpersonal behavioral strategy and the successful implementation of that strategy.

3. Communicating. This process function deals with the conveyance of ideas, concepts, or data from one individual to others. In the interpersonal context, only the oral mode of communication is subsumed.

a. Oral Communication - The activities in this process are those which involve both the formal and informal oral transmission and reception of information, irrespective of the content of the information.

Indirect Context. The soft skills performed in this context are primarily administrative and procedural in nature. While personnel and materiel may be dealt with as entities, there is no direct interpersonal interaction or contact required by the job functions.

1. Sensing. In the indirect context, the sensing process function is the same as in the interpersonal context except for the source of the information; that is, the information acquired, processed, and analysed is not from another person but from such sources as forms or documents.

a. Information Acquisition - This process includes all activities of the individual which concern the identification of written sources of information and the acquisition of all required data.

b. Information Processing - All activities dealing with review, selection, elimination, or assimilation of information acquired from written sources are included in this process.

c. Problem Analysis - All activities included in this process involve application of a strategy to determine the type and scope of the problem and to identify causal factors; in the indirect context, they are limited to those performed in a situation which does not include interaction with others.

2. Coping. The coping process function involves strategies applied in the process of actively dealing with the environment but not directly involving other individuals.

a. Information Transmission - Activities included in this process pertain to the organization, formatting, target selection, and transfer of information from one organizational member to another by written means.

b. Decision Making - The activities involved in this process relate to the selection of a course of action from several alternatives in situations other than those involving interaction with others.

c. Implementing Decisions - This process subsumes activities dealing with identification and written specification of the method(s) and procedure(s) by which a decision is to be implemented.

d. Administration - The activities included in this process are those in which an individual plans, organizes, and directs the activities of others, without directly interacting with them.

e. Organizational Role Performance - The activities reflected in this process are those which are performed by an individual in a non-interactive situation in the course of meeting his own expectations, those of the organization, and those of his subordinates.

3. Communicating. This process function deals with the conveyance of ideas, concepts, or data from one individual to others. The indirect context includes only the written mode of communication.

a. Written Communication - The activities in this process are those which involve both the formal and informal written transmission and reception of information, irrespective of the nature of the information.

Personal Predispositions

Personality characteristics have often proved critical to accurate prediction of career success. Such personality characteristics could not appropriately be assigned to either the hard or soft skill areas. The third skill area, personal predispositions, contains only those attributes considered to be both relatively enduring and internal to the individual.

Internal Context. As is self-evident, the skills and abilities subsumed in the personal predispositions skill area occur only in an internal context. These skills are not directly observable, but must be inferred from the individual's behavior.

1. Personality. Personality is defined as the total complex of characteristics that distinguishes an individual; however, only a subset of these characteristics is included in this classification scheme. Although it is possible to assess numerous aspects of personality, only a few have been found relevant to job success. Those which have been, and which are frequently evaluated in assessment programs, are shown below.

a. Adaptability - Activities included in this process are those which reflect an ability to adapt to changing situations which make varying demands.

b. Behavioral Style - This process includes those activities reflecting the intention of the individual to responsibly initiate focused action.

c. Consideration - Activities which indicate a concern for the rights of others are included in this process.

d. Intellectual Competence - This process includes all activities which indicate the mental ability and general competence of the individual.

e. Motivation - The activities in this process reflect the individual's desire to perform tasks successfully and to work with others.

f. Tolerance for Ambiguity - Activities included in this process are those which demonstrate the individual's ability to deal with task uncertainty and conflicting demands from others.

Hard Skills

The hard skills are those for which an explicit performance strategy exists and whose performance is defined by the specific task, organization, and personnel involved. Generally, hard skills are machine-ascendant.

Task-Defined Context. The tremendous range in contexts for the performance of the hard skills rules out the possibility of developing generalized descriptions that will include all situations. However, the

main point is that hard skills are defined by the tasks to which they are applied.

1. Sensing. This process function involves obtaining and assimilating technical information from the task environment. The component processes follow.

a. Information Acquisition - This process includes all activities which are focused on the identification of sources of required technical information and the obtaining of such information.

b. Information Processing - All activities dealing with the review, selection, elimination, or assimilation of the technical information are included in this process.

c. Problem Analysis - The activities included in this process involve application of a strategy to determine the type and scope of a technical problem and to identify causal factors.

2. Coping. The coping process function deals with the purposeful manipulation of some aspect of the task environment based on data acquired by means of the sensing function.

a. Information Transmission - Activities included in this process pertain to the organization, formatting, target selection, and transfer of technical information from one organization member to another.

b. Decision Making - The activities involved in this process relate to the selection of a technical course of action from several alternatives.

c. Implementing Decisions - This process subsumes activities dealing with the identification and specification of the technical method(s) and procedure(s) by which a decision is to be implemented.

d. Psychomotor Behavior - The activities included in this process are those which pertain to motor effects of psychic processes.

3. Communicating. This process function in the task-defined context includes the conveyance, by either oral or written means, of ideas, concepts, or data from one individual to another.

a. Written Communication - The activities involved in this process are those which deal primarily with the written transmission and reception of technical information.

b. Oral Communication - This process includes those activities involving primarily oral transmission and reception of technical information.

RELEVANT INDICATORS

This portion of the classification scheme will cover the fourth level of abstraction, indicators, and will discuss the way in which this level relates to the process level.

Indicators are behaviors which are the observable manifestations of processes. Thus, a process is reflected by the behavioral indicators evoked by an assessment situation. When an assessment exercise establishes the appropriate conditions for occurrence of a certain process,

the behaviors listed as indicators show that it is indeed occurring. The group of indicators listed for each process does not include all possible relevant indicators; those shown are representative of a larger set of indicators which would reflect that process. The designations of the indicators are self-defining.

Table 7 shows the most common indicators for the processes included in the classification scheme.

Overview of Classification Levels

Four levels of abstraction were selected for inclusion in the classification scheme. From most to least abstract these are (1) skill area, (2) process function, (3) process, and (4) indicator. Each of these levels was discussed and the relationships to adjacent levels were described. In addition, the contexts of performance for various processes and indicators were discussed. The classification scheme relates the processes or dimensions frequently evaluated in assessment programs to their relevant contexts of performance and to relevant skill areas. Such a classification scheme will serve several purposes. First, it allows for easy review of the categories subsumed by any skill area. Second, it allows the user to determine readily the relationships among several levels of abstraction. Finally, it provides the foundation for a model for the development of assessment exercises.

FACILITATING CONDITIONS

For most assessment purposes, the "process function" and "skill area" levels of abstraction are too general. Therefore, the model will focus upon processes as the most meaningful basis for the design of assessment exercises. The problem for an exercise designer is to specify the processes to be evaluated and to identify conditions that will facilitate the occurrence of indicators of the specified processes. Assessment conditions most likely to facilitate the evocation of each process are listed below.

The reliability of an evaluation of a process will be increased by the inclusion of as many appropriate facilitating conditions as possible. Since each of the conditions tends to evoke some indication of pertinent processes, the exercise which includes the greater number of facilitating conditions is more likely to produce a greater number of behavioral indicators and, hence, to result in more reliable evaluations.

Descriptions of the most usual facilitating conditions for each process are presented below. Processes duplicated in the classification scheme (Table 6) because of occurrence within different contexts of performance are not repeated in the listing below. When a process occurs only within one context of performance, its facilitating conditions are usually unique to that context. On the other hand, if a process can occur within more than one context, the facilitating conditions shown below for the process apply to all contexts.

The remainder of this section is comprised of a listing of facilitating conditions for the 20 separate processes included in the classification scheme.

Information Acquisition. This process is one component of a sensing function; it involves the act of obtaining information concerning a critical environment.

The facilitating conditions are:

(1) A situation requiring additional information for effective handling.

(2) A situation containing one or more potential information sources, one of which has exercise-relevant information.

(3) A situation in which complete information for meeting exercise requirements is not provided an assessee and which includes a provision for making relevant information available contingent upon the assessee's behavior.

Interactive Diagnostic Competence. This process, a component of the sensing function, can be performed only within a specific context.

The facilitating conditions are:

(1) A situation in which an assessee interacts with others on a face-to-face basis.

(2) A situation in which others with whom an assessee interacts emit a range of cues, some of which may be clear-cut, easily distinguishable and probably

interpretable, while others are more ambiguous and difficult to distinguish, and whose meanings are probably unclear.

(3) A situation in which an assessee is provided an opportunity to obtain cues from other(s) in the situation which reflect their feelings, thoughts, and potential actions.

Information Processing. This process also is a part of the sensing function and pertains to the evaluation of obtained information.

The facilitating conditions are:

(1) A situation in which an assessee receives discrete items of information, of which many have an exercise-relevant aspect in common.

(2) A situation in which an assessee receives numerous items of information, of which some are exercise-relevant while the remainder are not.

(3) A situation requiring that an assessee organize various items of information in a particular form and in which information about the appropriate form is either already known to the assessee or available to him in the situation.

(4) A situation in which the information provided an assessee does not specifically indicate an appropriate method of

dealing with the exercise, but must be used as the basis for interpolating or extrapolating to develop the required information.

Problem Analysis. The sensing function is also reflected in this process. The facilitating conditions are:

(1) A situation in which a problem description made available to an assessee does not indicate the specific type of problem, i.e., personnel, organization, production, but which must be used in determination of the problem type.

(2) A situation in which sufficient problem-relevant information is available to an assessee to allow for determination of problem scope, e.g., number of personnel involved, an individual with multiple problems, etc.

(3) A situation in which sufficient problem-relevant information is available to the assessee to allow the identification of probable causes.

Decision Making. One of the processes involved in the coping function, decision making, results in the selection of a specific course of action for dealing with some aspect of the environment. The facilitating conditons are:

(1) A situation requiring that some action be taken.

(2) A situation in which the relationships between available and required outputs are unclear.

(3) A situation in which discrete items of information available to an assessee must be assimilated by him in determination of an end product or course of action.

(4) A situation so structured that the information presented in the exercise can lead to multiple courses of action which can be evaluated as to quality of solution.

(5) A situation in which multiple solutions can be identified by an assessee and a single solution must be selected within a specified time period.

(6) A situation in which no additional data is made available and the decision of an assessee can be questioned by peers or superiors, and in which the opportunity is made available for changing or modifying the original decision.

Administration. This process, classified as one of several which reflect the coping function, has three components: (1) planning, (2) organizing, and (3) directing. However, these components are sufficiently interrelated in effective performance that they will not be presented separately. The facilitating conditions for this process are a situation in which the assessee is provided with (1) a hypothetical organizational position; (2) a job description; (3) information concerning the resources of the organization, both materiel and personnel; (4) information pertaining to the philosophy and

long-range goals of the organization; (5) notification of current organizational and personnel requirements; and (6) information pertaining to activities of organizational personnel, both goal- and nongoal-related; and a situation as follows:

(1) One in which plans for both short-range and long-range tasks must be developed.

(2) One in which intermediate goals must be sequenced and the time requirement for each task specified.

(3) One in which the assessee must evaluate and utilize organizational resources.

(4) One in which the assessee must coordinate the activities of individuals and groups.

(5) One in which the assessee must identify and delegate responsibilities and authority.

(6) One in which information concerning the effects of previous actions and decisions on the internal and/or external environment of the organization is made available to an assessee.

Implementing Decisions. This process also is a component of the coping function. The facilitating conditions are:

(1) A situation in which information concerning a prior decision and several means whereby the decision can be put into effect are available to an assessee, and one method must be selected to satisfy the exercise requirements.

(2) A situation in which an assessee must develop a plan for evaluating the effectiveness both of a decision and of the method selected to put the decision into effect.

(3) A situation in which an assessee selects a method for putting a decision into effect, and specifies and/or demonstrates a strategy for eliciting acceptance of the method by others.

Interactive Action Competence. This process, related to the coping function, is the activity counterpart of a process previously presented, interactive diagnostic competence. These two processes, which comprise interpersonal competence, are performed only in a specific context--one involving interaction with others. The facilitating conditions are:

(1) A situation in which an assessee interacts with others on a face-to-face basis.

(2) A situation in which an assessee must select and implement a desired behavioral strategy in order to attain a specified purpose with the other(s) in the situation.

(3) A situation in which an assessee must cope with the demands of the other(s) in the situation.

Information Transmission. This process also performs a coping function. The facilitating conditions are:

(1) A situation in which multiple items of information must be organized for the purpose of transmission.

(2) A situation in which an assessee must select task-relevant information from an accumulation of information, some of which is not task-relevant.

(3) A situation in which an assessee must determine the appropriate consumer for information.

(4) A situation in which an assessee must transmit information effectively.

Supervision. This process, a component of the coping function, is usually performed in an interpersonal context. The facilitating conditions are:

(1) A situation with requirements that subordinate performance achieve a certain level.

(2) A situation which includes a barrier to subordinate(s) accomplishment of assigned tasks.

(3) A situation which includes subordinate behavior indicative of unacceptably low group morale.

(4) A situation in which a subordinate's decision or action is questioned.

(5) A situation which includes a requirement for establishing job parameters for the subordinate(s).

(6) A situation which includes the requirement that subordinates exceed prior performance levels or maintain current levels over an extended period of time.

Organizational Role Performance. The coping function is reflected by this process. The facilitating conditions are:

(1) A situation in which an assessee is assigned the role of a subordinate and is required to deal with various directives, instructions, and requests.

(2) A situation in which an assessee must specify and/or demonstrate a strategy for eliciting acceptance by subordinates of decisions of higher levels of leadership.

(3) A situation in which an assessee is required to work with a group of peers to attain a specified goal.

(4) A situation in which an assessee is required to identify channels of organizational communication which should be used.

(5) A situation in which an assessee is confronted with conflicting demands from superior and subordinate levels and is required to reconcile the demands.

Oral Communication. This is one of two components of the communicating function. The facilitating conditions are:

(1) A situation in which an assessee is provided with items of information and is required to make a formal oral presentation of them.

(2) A situation in which an assessee must use information received orally as the basis for subsequent activities.

(3) A situation in which an assessee must transmit information orally.

Written Communication. This is the second of the two processes which perform the communicating function. The facilitating conditions are:

(1) A situation in which an assessee is provided with items of information and is required to prepare a written report about them.

(2) A situation in which an assessee is required to evaluate the written output of others.

Adaptability. The facilitating conditions for this process are:

(1) A situation in which demands made of an assessee are frequently changed.

(2) A situation in which a decision by an assessee meets with marked negative reaction by a peer.

(3) A situation in which a time or output requirement which cannot be met is made of an assessee.

(4) A situation in which differing viewpoints must be reconciled for task accomplishment.

(5) A situation in which negative feedback is given an assessee concerning the effects of his current behavior.

(6) A situation in which information contrary to his currently held position is provided to an assessee to act upon.

Behavioral Style. The facilitating conditions for this process are:

(1) A situation requiring that an action be taken.

(2) A situation which includes the possibility of future accountability for present action(s) or inaction(s).

(3) A situation which requires a decision in the absence of complete information.

(4) A situation which includes ambiguity as to correct actions.

(5) A situation which insures an assessee's awareness of the probability of a loss in the event of an incorrect decision or action.

Consideration. The facilitating conditions for this process are:

(1) A situation in which an assessee is required to evaluate the impact of a decision upon specific personnel.

(2) A situation in which an assessee, as a member of a group, must allocate to other group members less than the required amount of a desired resource.

Intellectual Competence. The facilitating conditions for this process are:

(1) A situation including a problem which requires that the assessee understand and apply certain principles.

(2) A situation whose effective handling involves the manipulation of selected concepts.

Motivation. The facilitating conditions for this process are:

(1) A situation in which an assessee is free to establish his own standards of output quality.

(2) A situation in which an assessee is free to terminate task achievement activity prior to task completion.

(3) A situation in which an assessee can disregard or minimize task demands if he choses.

(4) A situation in which an assessee can decide whether to work with others or to work alone.

Tolerance for Ambiguity. The facilitating conditions for this process are:

(1) A situation in which only minimal guidance is provided an assessee for performance of tasks or solving problems.

(2) A situation in which an assessee is provided only minimal guidance and is informed that additional guidance can be requested.

Psychomotor Behavior. The facilitating condition for this process is:

(1) A situation in which an assessee is required to perform certain bodily movements contingent upon internal or external change states and stipulated task requirements.

SUMMARY

The "facilitating conditions" presented above are general conditions necessary to be present within an assessment exercise in order for the respective processes to occur. After an exercise designer has identified the processes most relevant for his assessment purpose, reference to the facilitating conditions pertinent to the identified processes will provide guidance as to the types of situations, tasks, or problems most likely to evoke behavior indicative of the processes. Then, by reference to Table 7, the designer can ascertain the indicators most likely to occur and design instruments for evaluating them. Data collected through use of such instruments will provide the bases for judgments concerning assessees' performance of the processes to be evaluated.

IMPACTING FACTORS

Most assessment exercises are situational tests. An exercise designer attempts to create a situation, or series of situations, which will stimulate assessees to perform tasks such that their behavior will be susceptible of accurate evaluation. Within the limits set by the situation, variability among assessees should be free to occur. In this way, differences between assessees can be identified and evaluated.

However, the demand characteristics of a situation determine in large degree the type of behavior that will occur and even whether desired behavior will occur at all. For this reason, control and manipulation of situational factors are the principal means for effectively designing assessment exercises.

One type of situational factor encompasses the so-called "facilitating conditions" discussed in the previous section. These are general conditions which, when present, can be expected to stimulate performance of desired behavioral processes.

A second type are "impact factors." These factors are present in every exercise and each has a potential for affecting the behavior of assessees. They include such aspects as physical conditions and conduct of administrators and assessors, which are self-evident. However, two classes of factors exert the principal impacts and are those considered here. The classes are (1) factors related to assessee instructions and (2) factors related to assessee tasks. Following is a list of the principal factors. Each will be discussed in subsequent paragraphs.

ASSESSEE INSTRUCTIONS

1. Degree of Structure
   a. Goal clarity
   b. Means clarity
      (1) Procedures
         (a) Sequencing of required activities
         (b) Use of materials
      (2) Material
         (a) Amount required
         (b) Availability and contingencies
      (3) Specificity of assessee role
      (4) Assessee constraints
         (a) Distribution of power
         (b) Imposed communication net
         (c) Range of permissible response alternatives
   c. Evaluation clarity
      (1) Identification of assessed attributes
      (2) Specification of assessment standards
2. Complexity
   a. Length
   b. Number of topics covered
   c. Reading level
3. Mode of Presentation
   a. Oral
   b. Visual
   c. Written

ASSESSEE TASK

1. Clarity of Task Goals
   a. Multiplicity
   b. Verifiability
2. Clarity of Goal Paths
   a. Number of alternative procedures for task accomplishment
   b. Feedback on progress toward task accomplishment
3. Difficulty
   a. Level of effort
   b. Duration
   c. Number of required operations
4. Complexity
   a. Variety of required activities
   b. Rate of change of task input information
5. Cognitive/Motor Requirements
6. Mobility Requirements
7. Technical Expertise Requirements

(Continued)

8. Environment
   a. Social
      (1) Setting
      (2) Cooperation requirements
   b. Physical
9. Realism
10. Familiarity
11. Intrinsic Interest

Figure 2. Impact Factors in Assessment Exercises

ASSESSEE INSTRUCTIONS

Factors classified as instruction-related are those which pertain to the instruction structure or to methods of transmitting information to assessees.

Degree of Structure

Goal Clarity. The degree to which instructions specify an end product or the expected outcome of an exercise can affect the focus of an assessee's behavior. Clear and explicit specification of exercise goals will enable assessees to better channel task-related activities. Unclear or ambiguous goal specification can result in a greater number of ineffective activities.

Mean Clarity. An assessee's awareness of the various means whereby a goal may be achieved can impact upon task performance. Several discrete aspects of means clarity are:

(1) Procedures. The procedural aspect can involve the sequencing of activities required for effective task accomplishment and/or the use of available materials.

If the appropriate sequencing of intermediate activities is a behavior which the assessment exercise developer (AED) wishes to evaluate, no guidance should be given. However, if it is not an assessed behavior, lack of clarity places unnecessary demands on the assessee. This is also true for the degree of clarity concerning use of available materials. If problem solving or creativity is of interest to the AED, then little guidance should be provided an assessee. Otherwise, guidance necessary for effective utilization of available materials should be provided. Failure to do so can result in inappropriately increasing the level of task difficulty for assessees.

(2) Materials. This category deals with both materials and their acquisition, as distinguished from procedures for their use. Comments concerning the potential impact of procedures on assessment behavior also apply to this aspect of means clarity. Explicit specification of the amount of material required for task accomplishment, the extent to which it is readily available, and contingencies for the acquisition of additional material are means of influencing an assessee's behavior. For example, if the amount of available material is greater than that required for

task accomplishment, and the assessees are not informed of this fact, most will be hesitant to leave any unused. If processes such as decision making or adaptability are of interest to the AED, low levels of clarity may be desirable.

Assessment of certain processes such as behavioral style or motivation will be assisted by not providing full definition of ground rules concerning material availability and various contingencies, e.g., penalties incurred if additional material is requested. However, without at least a moderate degree of guidance, assessees cannot be expected to accomplish assessable portions of a task or to manifest sufficient behavior for satisfactory evaluation of other processes.

(3) Specificity of assessee role. Many assessment exercises include the assignment of an assessee to a hypothetical role. In the event an assessee is assigned a role, but the role description is unclear, the measures obtained can be of questionable validity. An assessee who is unsure of the role to be played is likely to engage in fewer and more conservative actions than might otherwise be the case. In a situation involving multiple assessees, low role clarity can result in a substantial amount of time being devoted to the development of working relationships, often accompanied

by behaviors which are not of interest for assessment purposes. On the other hand, if a process such as organizational role performance is the evaluation target, establishment of such an ambiguous situation could be desirable.

(4) Assessee constraints. There are several types of constraints on the behavior of assessees which reflect means clarity. Constraints are those provisions in the design of the exercise which are intended to limit or modify the assessee's behavior in some way.

The distribution of power, one type of constraint, can be made on an equitable or a disproportionate basis. Equal distribution of power to all assessees in an exercise produces peers, while a disproportionate distribution results in a superior-subordinate relationship. Since different behaviors can be expected for these two types of relationships, the purpose of assessment will determine the distribution. However, the design conditions must be clearly explained to assessees. Low clarity of the intended power distribution can result in evolution of a different distribution during the course of establishing working relationships, which, in turn, may produce behaviors other than those in which the AED is interested.

Another type of assessee constraint is a communication net which the AED imposes upon a group of assessees. The design of the exercise may require that communication between assessees be restricted. Low instructional clarity on this point can result in continued communication, thereby impacting both upon the measures obtained and upon the result or output of the exercise. The same consideration holds for a design intended to produce a channeling effect, in which all communication among assessees is channeled through a central person. Low clarity of this constraint would result in unrestricted communication.

A third type of assessee constraint is the range of permissible response alternatives. If the AED intends that assessees should only be allowed to use a subset of possible response alternatives in dealing with task requirements, it should be made clear. One way of accomplishing this is to specify a range of restricted alternatives. Specification in terms of a range will not cue assessees as to the most appropriate alternative. Low clarity of this restriction may result in unintentional violation by assessees, invalidating the output or terminating the exercise. Awareness of either result can have an impact upon an assessee's behavior in subsequent exercises, producing such effects as hostility, frustration, or decreased motivation.

Evaluation Clarity. There are two factors subsumed by this designation, each reflecting an aspect of the evaluation procedure.

(1) Identification of assessed attributes. Identification to assessees of attributes to be evaluated during an exercise will result in an assessee narrowing the range of exhibited behaviors to insure that desired behaviors are performed. In some cases it may be necessary to include a moderate level of clarity in the instructions, e.g., "we are concerned with your administrative skills," but the level of clarity should never be higher than absolutely necessary. The less sure an assessee is about target attributes, the more likely it is that exhibited behavior will be contingent upon perceived situational demands. This latter state is one which the AED should always strive to attain.

(2) Specification of assessment standards. This factor should not be included in instructions except at a moderate to low level of clarity. Explanation of standards to be used causes a restriction of behaviors not directly related to the specified standard. By concentrating an assessee's attention on certain aspects of the exercise, opportunity for measuring other behaviors may be lost.

Complexity

The level of complexity of instructions should always be appropriate for the purpose of the exercise and the comprehension capabilities of assessees. Complexity is determined by three factors:

Length. The length of instructions is not a critical aspect; but, it is important. Excessively long instructions enhance complexity because assessees may experience difficulty in assimulating all of the information included in long instructions. Accordingly, instructions should be only of sufficient length to present necessary and relevant information. Unnecessary or irrelevant information can cause assessees to overlook or misunderstand essential requirements. Assessees may also experience frustration in attempting to listen to or read instructions which are unnecessarily long.

Number of Topics. The preceding factor is related to this one because the number of topics to be covered affects length of instructions. The comments and precautions discussed above also pertain to this factor. The number of different topics included in exercise instructions should not exceed that required for clear understanding of the exercise and specific requirements.

Reading Level. When written instructions are used, this factor can impact strongly upon assessee motivation and behavior. Instructions written at a reading level substantially below that of assessees may stimulate negative reactions from them, resulting in adverse effects

upon their behavior during the exercise. On the other hand, instructions written at a reading level substantially above that of assessees may not only produce frustration but few assessees will be able to perform adequately in the exercise. A reading level appropriate for all assessees should be sought by an AED.

Mode of Presentation

The mode in which instructions are presented has potential for affecting comprehension and retention of required information by assessees.

Oral. Use of the oral mode is appropriate when instructions are brief and involve a limited number of topics. Since assessees usually are not provided copies of oral instructions, it is unlikely that all information included in a lengthy set of instructions or those which include a number of topics will be retained.

Visual. A visual display shares a drawback in common with oral presentations; an assessee has no record of information provided in the instructions. However, this mode of presentation is still quite effective in situations where an assessee must locate an object or manipulate certain objects during an exercise. The mode may be especially appropriate where a task is very complex and can be represented visually.

Written. This mode of presentation allows an assessee to retain a record of the instructions and, thus, to review them as necessary.

This mode is usually preferred by assessees. If instructions are unavoidably complex, this mode should definitely be used. Written instructions can be combined with either or both of the other presentation modes with excellent results.

ASSESSEE TASK

A second major class of impact factors consists of attributes of the tasks to be performed by assessees during the course of assessment exercises.

Clarity of Task Goals

"Clarity of task goals" refers to the extent to which objectives to be accomplished through the performance of assigned tasks are clearly defined and communicated to assessees. Low goal clarity increases ambiguity for assessees, thus leading to increased numbers of inappropriate behaviors with accompanying fatigue and frustration. Two especially critical determinants of clarity are multiplicity and verifiability of goals.

Multiplicity. This aspect is concerned with the number of solutions, decisions, or actions which can be considered "correct" with respect to fulfilling exercise requirements. Exercises may vary widely in the number of acceptable actions, decisions, solutions, etc.

Multiplicity of acceptable actions or solutions may affect the extent to which an exercise "stretches" an individual and evokes all of the behaviors planned to be evaluated during the exercise. Since a greater number of acceptable alternatives increases the probability

that one will be selected, an assessee may not find it necessary to engage in the full range of activities for which assessment is planned.

Verifiability. This factor is concerned with the extent to which a solution, decision, or action can be verified as to its "correctness." For example, a leaderless group discussion of a human relations problem may produce a consensual solution; however, verification by assessees that this is the "correct" solution is difficult, if not impossible. At the other extreme, a lathe operator who forms a piece of wood or metal to specifications as part of a proficiency test can personally test the output for "correctness" through use of a micrometer.

Low verifiability (few criteria available) can result in premature termination of activities by assessees as soon as a first plausible solution is identified. Furthermore, an assessee will usually be less confident about the correctness of a selected alternative when verifiability is low, which can influence both subsequent performance and the favorableness with which the assessment experience is evaluated.

Clarity of Goal Paths

This factor is concerned with the explicitness of the goal path, i.e., how a particular goal can be attained. "High clarity" occurs when all procedures for attaining a goal are explicit and known to an assessee. Conversely, "low clarity" occurs when an assessee has no clear ideas as to how a goal may be attained.

Alternative Procedures for Task Accomplishment. Exercises vary with respect to the number of ways in which a required output can be developed (goal attainment). Usually, clarity is greater with an increase in the number of alternative procedures which are possible. However, it should be noted that increased clarity can lead to a decrease in behavior reflecting information acquisition, information processing, and problem solving. On the other hand, decision-making behaviors may be evoked more often by such a situation.

Low clarity of goal paths resulting from limited alternative of procedures may lead to the exhibition of behaviors indicative of personal abilities and predispositions, as well as a greater amount of searching and problem-solving behaviors.

Goal path multiplicity is frequently confounded with goal multiplicity because multiple goals may be accompanied by a large number of available procedures for attainment. However, even in the instance of a single goal, alternative procedures may be available to assessees.

Feedback on Progress Toward Task Accomplishment. Although this factor is not applicable for all exercises, it is quite relevant for several, especially those having low clarity of goal paths. An assessee who is unable to obtain information indicating the quality of his progress toward goals will usually be more cautious, less confident, and less willing to assume responsibility for outputs than is an assessee who obtains such feedback.

Difficulty

Several factors contribute to the level of difficulty of an exercise. Usually, the more difficult an exercise (to an optimum point), the more likely it is that an assessee will reveal personal attributes.

Level of Effort. This factor reflects the degree of energy expenditure required of an assessee in order for him to meet exercise requirements. Exercises which require considerable physical or mental effort produce both stress and fatigue in assessees. Accordingly, if stress and fatigue tolerance are not elements to be assessed, it may be desirable to design exercises which require only optimum levels of effort.

Duration. The longer an exercise lasts, the more difficult task completion will be for an assessee. The above remarks concerning level of effort are also applicable to this factor. Stress may be produced through a requirement for sustained activity as well as one for a short-term, high-level output of energy.

Number of Required Operations. As the number of separate operations required for task completion increases, more energy expenditure is required. In addition to fatigue, a large number of required operations may also result in boredom and decreased motivation.

Complexity

The complexity of an exercise or task is related to the variety of requirements placed upon an assessee.

Variety of Required Activities. This factor is concerned with the number of different activities required for accomplishment of an assigned task. As used in this context, "activity" refers to a conceptually distinct set of behaviors. For example, in a business game, an assessee might be required to engage in distinctly different activities such as marketing, recording, negotiating, etc. The number of behaviors which can be observed and evaluated increases with the number of different activities required. However, substantial task overload, accompanied by stress, can easily result when a variety of differing activities are required of an assessee. A large variety of required activities will usually increase both the duration (difficulty) of the exercise and the possibility of fatigue. Thus, a risk accompanies an increase in the number of discrete activities because the measure obtained in the latter part of the exercise may be of questionable reliability due to possible negative effects upon assessees.

Rate of Change of Task Input Information. The designs of many assessment exercises specify that all information which assessees receive will be provided at the beginning of the exercises. Others, e.g., a controlled simulation, include inputs of information throughout the exercise.

A constant rate of information input throughout an exercise will have minimal impact upon assessee behavior. There will be some cumulative impact in that an assessee possesses a larger amount of

information in the latter part of the exercise as compared with the initial segment. However, unless the amount of information is very great, assessee performance can be expected to remain relatively constant, provided that other conditions are not substantially changed.

However, if the rate of information input increases with time, task overload becomes a point of consideration. Although some degree of overload is useful for eliciting behaviors indicative of personal characteristics, excessive overload can reduce measurement reliability. Under excessive overload, problem-analysis and decision-making behaviors are more often performed on a reactive rather than an analytical basis, which may be undesirable. Only if the focus of an exercise is upon some process such as reaction to stress should a substantial task overload condition be established and maintained.

Cognitive/Motor Requirements

This factor pertains to the ratio of mental requirements to motor requirements resulting from task demands. The extent to which this ratio is heavily weighted in either direction exerts certain limiting effects with regard to the behaviors which can be expected to occur. Thus, an imbalance in the direction of cognitive requirements may result in only limited observable behavior, i.e., thinking cannot be directly evaluated and tasks which require extended periods of thought without the necessity for some actions restrict opportunities

for behavioral observation by assessors. On the other hand, excessive imbalance in the direction of motor requirements limits opportunities for evaluating the more complex problem-solving and decision-making capabilities.

Mobility Requirements

The extent to which a task requires that assessees move within or between locations can be an important consideration. For example, a field exercise may require substantial mobility while a business game may involve very little movement. In general, any exercise designed to be conducted indoors will have relatively low mobility requirements. High mobility requirements substantially increase the level of difficulty of an exercise.

Technical Expertise Requirements

Assessment exercises differ with respect to the degree of expertise required of assessees. However, regardless of the purpose of the assessment, the degree of required expertise will usually increase as assessees are drawn from populations representative from higher organizational levels.

An exception may be the assessment of hard skills in the performance of certain job specialties.

If the technical expertise required by an exercise is substantially higher than that possessed by many assessees, task goals and goal paths may be unclear and difficulty and complexity of the exercise will be greatly increased for the assessees. Such a

situation has significant implications for any assessment program. If assessees feel that they are required to perform tasks which are beyond their capabilities, substantial negative reaction may result.

On the other hand, an exercise having technical requirements well below the expertise levels of most assessees may not provide assessors the desired information. If all assessees perform extremely well, discrimination between them is not possible.

Accordingly, exercises should be designed with particular assessee populations in mind and technical expertise requirements should be such as to challenge assessees but not so stringent as to contaminate the manifestation of nontechnical attributes.

Environment

Social. The social environment is the context resulting from the presence or contact with other people during an assessee's performance. Two aspects of this factor are discussed below.

(1) Setting: The setting of an exercise is concerned with whether an assessee is in face-to-face contact with other assessees or is isolated from them. Some exercises, e.g., a controlled simulation, require verbal output from an assessee; however, since all assessees receive identical inputs, each must be isolated when participating. Other exercises, e.g., leaderless group discussion, require face-to-face settings and, in part, assessees may be evaluated on their interactions with

others. In general, the presence of others has been found to enhance task performance.

(2) Cooperation requirements: This aspect of the social environment factor is concerned with the degree to which a task requires integrated action by several assessees for successful accomplishment. It should be pointed out that a requirement for integrated action does not necessarily involve face-to-face contact. Thus, each of several assessees may have separate functions to perform, but the functions can be performed in isolation, e.g., an assembly line type of exercise. Requirements for a high level of cooperation may be necessary for the most reliable measurement of such processes as organizational role performance and interactive action competence. Low degrees of cooperation are most appropriate for assessing on a process such as administration.

Physical. The physical environment includes not only the location and conditions under which an exercise in conducted but also the type(s) and quantity of equipment required for conducting the exercise. Requirement for use of several types and/or amounts of equipment can increase task complexity and/or difficulty. Each exercise should be thoroughly reviewed to determine the implications of such requirements.

Realism

The most realistic assessment exercise is one which exactly duplicates some aspect(s) of an existing organizational environment. However, such realism may not be cost effective and there is considerable evidence that it it not required for valid assessment. An exercise can be realistic, that is, the relationships within and among the requirements, settings, and materials may be plausible, without full environmental duplication. The more important issue is whether the exercise evokes realistic behavior and assessable processes and this can usually be accomplished without duplication of all aspects of a job setting.

Consideration of the amount of realism that is required is one of the first decisions to be made in the development of an assessment exercise.

Familiarity

The AED should consider the probability of an assessee having had prior experience with the class of tasks to which an exercise belongs. Unequal familiarity among assessees will result in spuriously high evaluations of some assessees and spuriously low evaluations of others.

Intrinsic Interest

This factor can be critical to effective assessment. An assessee who feels than an exercise is interesting is more likely to display behaviors indicative of such target processes as motivation, interpersonal action competence, and behavioral style.

Assessment exercises vary widely in their intrinsic interest for assessees. Some, such as an interview, may be interesting at times. Others, such as an assembly type of exercise, may be of little interest to most assessees. Still others, such as a controlled simulation, may be interesting to most assessees. An exercise with (a) some novelty (low familiarity), (b) moderate to high means and goal clarity, (c) moderate difficulty, and (d) moderate to high complexity will be intrinsically interesting to most assessees.

The function of an exercise is not to entertain assessees; however, intrinsic interest is important for generating individual involvement to the extent that an assessee's behavior is genuinely representative of the manner in which such a situation would be handled outside of the assessment context.

INTERACTION AND IMPACT

Each of the factors discussed above has a potential for impacting upon the behavior of assessees. Each can also interact with one or more other factors to produce an effect on assessee performance. Although it is beyond the scope of this report to present all possible combinations and contingencies, several of the more critical interactions were discussed. The impacts of a particular factor or the interaction of multiple factors can usually not be predicted for a specific assessee; however, the probable effects for a group of assessees with specified characteristics can be estimated. Then, a

test of each exercise should be conducted in order to check the accuracy of the estimate.

The list of impact factors presented above should be used for two purposes: (1) to estimate the impact of exercise content upon assessees, and (2) to insure that all aspects have been considered in design of an exercise.

ASSESSMENT EXERCISES

Assessment exercises, defined as techniques for evoking particular behaviors by means of specially designed situations, are one method for evaluating individual performance proficiency in one or more processes. An important aspect of an assessment exercise is the degree of correspondence between the exercise and on-the-job performance.

REMOTENESS FROM JOB CONTEXT

As pointed out by Glaser and Klaus (1962), the extent of remoteness between performance measurement techniques and actual job performance may be due to differences in (a) the behavior elicited for measurement or (b) the eliciting stimuli themselves. In general, the smaller the degree of correspondence between the test stimuli and the job situation, the less similar the elicited responses are to those observed in job performance.

Many of the assessment exercises described below may be so designed as to reflect varying degrees of remoteness from the job

situation, such as those discussed by Glaser and Klaus. One extreme on the continuum of remoteness from job performance is measurement of proficiency during actual job performance. The other extreme of this continuum, high job remoteness, is represented by measures (e.g., paper-and-pencil exercises) that are not obviously similar to actual job performance, but which assess performance on tasks that correlate with on-the-job behavior.

Assessment situations that fall between these two extremes are (a) those that require performance of the actual job task outside of the real job environment, and (b) situations which attempt to simulate the job task while simultaneously controlling factors which, in "real" situations, may interfere with reliable and valid measurement. A third intermediate situation, not discussed by Glaser and Klaus, is an exercise unlike the job situation but which evokes behavior corresponding to that required in job performance. Basic to each of the positions along this continuum of remoteness from the job situation is the valid identification of critical behaviors for effective job performance.

In summary, the five previously described positions along the continuum are (a) on-the-job assessment, (b) work sample assessment, (c) simulated-job assessment, (d) corresponding behavior assessment, and (e) correlated-job assessment. Several considerations are involved in selection of the acceptable level of job remoteness to be reflected by an assessment exercise. Considerations relevant to each of these five positions will be discussed below.

On-the-Job Assessment

The ideal is, of course, proficiency assessment in the job situation. However, several problems are presented by this method. One important problem involves measurement reliability, the consistent and unambiguous recording and evaluating of elicited behaviors. The degree of control possible in a job situation may be too low to obtain reliable measures. Increasing the degree of control by attempting to standardize the job often results in an artificial situation. An additional and significant consideration involves the sizable resources (personnel and materiel) required for assessment of a rather limited number of personnel.

Work Sample Assessment

An assessment exercise reflecting a greater level of job remoteness involves selecting and removing samples of the actual job task from the real work environment. Thus, assessees perform actual tasks but not in the real job environment. This type of exercise allows greater standardization of the assessment situation and more reliable measures can be obtained than in on-the-job assessment. However, many of the same objections also apply--high cost, time requirements, and unsuitability as a method of assessing large numbers of people.

Simulated-Job Assessment

Due to the problems associated with the assessment of proficiency in the first two situations, a third assessment method is frequently

used. It involves controlled simulation of the job. Successful development of this assessment method depends upon design of test stimuli that will elicit job-like responses susceptible to objective measurement. Some of the methods most frequently used in such an assessment situation are equipment mock-ups and simulators. A high degree of standardization can be achieved in such a situation, which facilitates the collection of reliable and valid assessment data. This method not only allows for the assessment of large numbers of individuals, but requires lower levels of resources over time than either of the two previously discussed types.

Corresponding Behavior Assessment

This method differs from the simulated-job approach in that test stimuli very remote from job environment stimuli may be used to elicit behaviors corresponding to those observed in job performance. In other words, virtually no simulation of the job environment occurs in this method. Highly standardized situations, allowing for the collection of valid and reliable assessment data, can be developed. Resource requirements are comparable to those of the simulated-job technique. Large numbers of individuals can be assessed by means of this method.

Whereas the simulated-job technique is frequently most efficient for assessment of hard skills, both the simulated-job technique and the corresponding behavior method lend themselves to the assessment of soft skills. Development of soft skill assessment exercises at these levels of job remoteness often requires some creativity on the

part of the designer, especially when using the corresponding behavior approach.

Correlated-Job Assessment

This method represents an extreme position on the job remoteness continuum, and involves the use of tests which measure behaviors that have been correlated with job behaviors. The most frequently employed type of correlated-job assessment involves the evaluation of substantially nonverbal skills through verbal responses, i.e., tests of job knowledge to evaluate job performance.

Minimal resources are required for use of this assessment approach. Very large numbers of individuals can be assessed. However, the relationships between tested behaviors and inferred behaviors, e.g., job performance, may vary widely and must be carefully investigated before operational use of any measure.

Summary

Five positions on a continuum of remoteness between performance measurement techniques and actual job performance were described. The degree of remoteness may be due to differences in (a) the behavior elicited for measurement and/or (b) the eliciting stimuli themselves. The five positions on the continuum are identified as (a) on-the-job assessment, (b) work sample assessment, (c) simulated-job assessment, (d) corresponding behavior assessment, and (e) correlated-job assessment. These positions have important implications for the design of assessment exercises.

CLASSIFICATION OF ASSESSMENT EXERCISES

The content of an assessment exercise can vary widely, contingent upon the purpose of the AED, the processes of interest, and the organizational context within which assessment occurs. Furthermore, the several classes of exercises differ in their suitability for obtaining measures reflecting the various processes. For example, processes vary with respect to the degree of inference necessary for measurement. For some processes, specific observable behaviors may be identified which indicate performance of the processes. An example is decision implementation. However, direct behavioral measures are not possible for other processes, e.g., motivation. Assessment of such processes requires inference. That is, from observation of assessees, inferences must be drawn concerning the level of effectiveness in the performance of the target process.

Whether measurement can be accomplished through direct evaluation of behavior or through inference depends, in part, upon the structure of an exercise and, in part, upon the nature of the process to be assessed. Figure 3 shows a classification of exercises based upon structure. Each class, with its most relevant characteristics, is discussed below. Table 8 shows the processes which are the most likely candidates for evaluation by each class of exercise and indicates whether measurement can be accomplished by direct observation or inference. Exercise designers should also consult Mager (1962, 1972) when developing instruments for measuring the processes.

INTERVIEWS

TABLE EXERCISES

- Leaderless Group Discussion
- Games
- Group Problem Solving

WRITTEN EXERCISES

SIMULATIONS

- Man-Ascendant Simulations
- Man-Machine Simulations

Figure 3. Classification of Assessment Exercises

Interviews

An interview is an interactive situation in which an assessee and one or more interviewers conduct a discussion, the purpose of which is to obtain information about the assessee and insights or impressions concerning significant attributes. The interviewer may be an assessor; however, this is not an essential requirement. It is possible for an assessor to observe an interview while someone else conducts it. Similarly, some situations have been devised in which assessees interview each other. For maximum results it is necessary that the interviewer possess at least a minimum of interviewing skill. From an assessment standpoint, the principal feature of an interview is that an assessee is stimulated to talk frankly and in depth, and to provide personal information so that both the information and the individual's behavior during the interview are subject to evaluation. Examples of some of the various types of interviews are:

(1) Assessment interview in which an assessor interviews an assessee. In a panel assessment interview, multiple assessors interview one assessee. These interviews may be structured, unstructured, or mixed.

(2) Appraisal interview in which one assessee interviews another. Generally, the interviewer will have been given an opportunity to develop an interview guide. An assessor may sit in on the situation, or the interview may be videotaped for subsequent viewing and evaluation by one or more assessors.

Characteristics. The principal characteristics of interviews are:

1. Setting: Interpersonal interaction with the interviewer.
2. Type: Noncompetitive.
3. Equipment Requirements: Minimal.
4. Material Requirements: Minimal.
5. Physical Facility Requirements: Low.
6. Time Frame: Usually less than one hour.
7. Administrator Requirements: Few.
8. Number and Qualifications of Assessors. Contingent upon:
   a. Expertise required to make assessments: Moderate.
   b. Number of assessees performing simultaneously: One.
   c. Mobility required of assessors: None.
   d. Complexity of the performance to be observed: Generally moderate level.

Table Exercises

A common feature of all table exercises is that a group of assessees sits around a table and holds a discussion or performs some common task while under the observation of assessors. Three of the principal forms taken by table exercises are discussed below.

Leaderless Group Discussion. A group of assessees is assigned some task to be performed or some decision to be made. No leader for the group is designated. During the course of the discussion, the members interact, often quite intensively, which makes it possible to observe and evaluate various attributes under quasi-realistic conditions. A participant may either be assigned a position to support during the course of the discussion or allowed to develop his own position.

Games. Games generally involve one or more groups of assessees who oppose either other teams or a computer, in working through sequences of alternatives in competitive (win-lose) situations which usually involve the acquisition of resources (money, goods, etc.).

Group Problem Solving. A group of assessees is assigned some problem to solve. An example is the NASA Moon Problem in which the group is required to decide upon the order of importance of listed items to be taken on a trip from one location to another on the moon's surface. The group members may or may not be assigned specific roles to play during the exercise.

Characteristics. The principal characteristics are:

1. Setting: Interpersonal.
2. Type: Generally competitive. For games, competitive among groups.
3. Equipment Requirements: None.
4. Material Requirements: Minimal.
5. Physical Facility Requirements: Low.
6. Time Frame: Usually two hours.
7. Administrator Requirements: Few.
8. Number and Qualification of Assessors. Contingent upon:
   a. Expertise required to make assessments: Moderately high.
   b. Number of assessees performing simultaneously: Six to 10 per group.
   c. Mobility required of assessors: None.
   d. Complexity of the performance to be observed: Moderately high.

Written Exercises

Assessees are required to respond to questionnaires or to produce some sort of written materials, e.g., letters, essays, problem analyses, which may then be evaluated. A basic feature of the written exercise is that the product remains available for evaluation after completion. This feature permits more detailed analysis and more considered evaluation before recording the results. On the other hand, attributes assessed by such exercises are limited to those that can be revealed through

written communication. Such exercises may range from paper-and-pencil measures of personality characteristics to a description of the assessee's job environment.

Characteristics. The principal characteristics are:

1. Setting: Individual, no interactions.
2. Type: Noncompetitive.
3. Equipment Requirements: None.
4. Material Requirements: Minimal.
5. Physical Facility Requirements: Very low.
6. Time Frame: Usually two hours or less.
7. Administrator Requirements: Few.
8. Number and Qualifications of Assessors. Contingent upon:
   a. Expertise required to make assessment: Varies--the less structured the output, the more assessor expertise is required.
   b. Number of assessees performing simultaneously: One.
   c. Mobility required of assessors: None.
   d. Complexity of the performance to be observed: Usually low.

Simulations

The definition proposed by Bogdanoff, et al (1960) will be used for this class of exercises:

"Simulation is the systematic abstraction and partial duplication of a phenomenon for the purposes of effecting (1) the transfer of training from a synthetic environment to a real environment; (2) the analysis of a specific phenomenon; or (3) the design of a specific system in terms of certain conditions, behavior, and mechanisms."

Thus, simulation is concerned with abstracting or representing reality, and, in assessment, it attempts to isolate a segment of reality for the purpose of evoking certain assessee behaviors.

Simulations can take many forms and include a variety of contents. They may simulate the job task and/or the job environment. Several of the principal forms taken by simulations will be discussed below.

One important dimension on which simulations may vary is the degree to which inputs to the assessee are programed. Inputs may be completely scheduled, they may be completely contingent, or they may be mixed. For the completely scheduled situation, each input occurs irrespective of assessee behavior. All the inputs may occur at the beginning of the exercise, or the inputs may be scheduled for various times throughout the simulation. In a completely contingent situation, all inputs occur as a function of the assessee's behavior. The mixed simulation contains both scheduled and contingent inputs. All simulations will necessarily involve initial provision of sufficient information to structure the situation and the role the assessee is to play during the exercise.

Due to the extreme diversity possible, the characteristics will be presented for each form rather than a single listing as was done for each of the preceding classes.

Man-Ascendant Simulations. The term man-ascendant is used to refer to the situation where man is in control or dominates. Examples of each of the various degrees to which assessee inputs are structured are presented below.

1. Scheduled Inputs. Few simulations completely schedule inputs throughout the exercise. A type of simulation which involves inputs only at the beginning of the exercise is the Administrative Simulation. The most common administrative simulation is the In-Basket Exercise, whose name is derived from the "in-basket" on a manager's desk, in which letters, reports, memoranda, and other papers are deposited for the manager's attention and action. In the in-basket exercise, an administrative job is simulated under specified conditions by exposing assessees to a cross-section of problems likely to be encountered in that job. From the assessee's disposition of these problems, usually in the form of written notes and memoranda, a sample of administrative behavior can be obtained and evaluated. Each assessee completes the exercise on an individual basis, and no group interaction occurs. In some exercises, the written products are later analyzed by an assessor and evaluated. On the other hand, some exercises include an interview following completion of the exercise. During the interview, an assessor attempts to learn the basis for an assessee's

actions in handling specific problems. In this way, understanding can be obtained of the reasoning used in arriving at solutions to the various problems. In the in-basket exercise, emphasis is primarily upon problem solutions, although the problems may range widely from those concerned with technical aspects of the job to supervisory and interpersonal problems handled, not through personal interaction but, rather, through disposition of the paperwork related to the problem.

Characteristics. The principal characteristics are:

a. Setting: Individual, no interaction.

b. Type: Noncompetitive.

c. Equipment Requirements: Minimal.

d. Material Requirements: Low.

e. Physical Facility Requirements: Low.

f. Time Frame: About three hours.

g. Administrator Requirements: Few.

h. Number and Qualifications of Assessors. Contingent upon:

(1) Expertise required to make assessments: Moderately high.

(2) Number of assessees performing simultaneously: One.

(3) Mobility requirements of assessors: None.

(4) Complexity of the performance to be observed: Moderately high.

2. Contingent Inputs. An example of a simulation involving completely contingent inputs is a role play. Role play involves interaction in an imaginary situation. The assessee is assigned a role to play in interacting either with an assessor or another assessee. The assigned role is designed to elicit realistic behaviors from the assessee. The content of the role play may range from handling a stressful and unexpected situation to conducting a simulated appraisal interview with a subordinate.

Characteristics. The principal characteristics are:

a. Setting: Interpersonal.

b. Type: Noncompetitive.

c. Equipment Requirements: None.

d. Material Requirements: Minimal.

e. Physical Facility Requirements: Low.

f. Time Frame: One hour or less.

g. Administrator Requirements: Few.

h. Number and Qualifications of Assessors. Contingent upon:

(1) Expertise required to make assessments: Moderately high.

(2) Number of assessees performing simultaneously: One.

(3) Mobility required of assessors: None.

(4) Complexity of the performance to be observed: Moderately high.

3. Mixed Inputs. Simulations will most frequently include both scheduled and contingent inputs. Inclusion of both types allows for greater flexibility in designing the exercise as well as increasing the capability of eliciting a greater range of behaviors. This increased capability is illustrated by one modification of the in-basket exercise. In this modification, the assessee has telephonic contact with one or more controllers. Two other examples of this form of simulation are presented below.

a. Controlled Simulations. In a controlled simulation, real-life conditions are duplicated to one degree or another; however, controllers actively participate in the exercise, making frequent inputs so as to control the progress of the exercise and the character of the problems encountered by assessees. Since a controlled simulation usually follows a carefully devised script, it is possible for assessment instruments and observations to be much more highly structured than in exercises where greater behavioral latitude is permitted assessees. Thus, much more precision of measurement can be achieved.

Characteristics. The principal characteristics are:

(1) Setting: Individual, interaction only between an assessee and the controller(s).

(2) Type: Noncompetitive.

(3) Equipment Requirements: Moderate.

(4) Physical Facility Requirements: Moderate.

(5) Time Frame: Generally up to six hours.

(6) Administrator Requirements: Numerous.

(7) Administrator Requirements: Numerous.

(8) Number and Qualification of Assessors. Contingent upon:

(a) Expertise required to make assessments: Moderately high.

(b) Number of assessees performing simultaneously: Usually one, although this varies widely.

(c) Mobility required of assessor: None.

(d) Complexity of the performance to be observed: Moderately high to high.

b. Field Exercise. These consist of a wide variety of tests in which assessees perform tasks, usually out of doors, under conditions which make it possible to assess performance that involves mental, physical, and technical capabilities. Thus, mobility is possible and the effects of the physical environment can be taken into account. The two principal types of field exercises are (1) "moving problems" in which assessees move down lanes or other areas during which they encounter problems or perform various tasks according to instructions of controllers, and (2) "county-fair" exercises at which problems or other stimulus conditions are set up at permanent "stations" and assessees move through a series of stations at each of which they solve a problem or perform some task.

Inputs are of the mixed category in that assessees may be given certain information at each problem contingent upon their behavior, and may also be scheduled to attempt each problem at a

specified time.

Characteristics. The principal characteristics are:

(1) Setting: Group setting--generally interaction only with the controller(s), although this is variable.

(2) Type: Noncompetitive.

(3) Equipment Requirements: Variable, usually moderately high.

(4) Material Requirements: Variable, usually moderate.

(5) Physical Facility Requirements: Moderately high to high.

(6) Time Frame: Usually less than five hours.

(7) Administrator Requirements: Moderate.

(8) Number and Qualification of Assessors. Contingent upon:

(a) Expertise required to make assessments: Variable, usually moderately high.

(b) Number of assessees performing simultaneously: May vary from one per station to six to eight per group in a moving problem.

(c) Mobility requirements of assessors: Low for county fair type; high for moving problem.

(d) Complexity of the performance to be observed: Moderate to moderately high.

Man-Machine Simulations. This type of simulation ranges from a situation requiring an assessee to spend a small portion of time operating a

machine to the situation in which the machine is dominant. As with the man-ascendant simulations, man-machine simulations can be separated into three categories on the basis of the extent to which inputs are programed. Since the particular type of machine involved, the job environment, the organizational context, and the purpose of the AED impact upon the design of the assessment exercise, no specific exercise designs will be presented. An example of the degree of complexity possible in a simulation of this type is given in Porter (1964).

REMOTENESS AND DESIGN

In designing an assessment exercise selected from any of the classes discussed previously, the AED must determine the appropriate level of remoteness from the job context. Simulated job assessment, corresponding behavior assessment, and correlated job assessment reflect the degrees of remoteness most frequently found in assessment exercises. Usually, the cost to benefit ratio is so large that few AEDs will consider designing exercises which reflect either of the first two positions on the remoteness continuum.

Evaluation of hard skills will most frequently require a simulated job exercise, while evaluation of soft skills most frequently results in corresponding behavior assessment. The correlated job assessment method is used for evaluation of both hard skills and soft skills, although somewhat more frequently for the latter. It

should be pointed out that these are generalizations and the AED must consider his particular situation and needs before reaching a final decision.

Process Measurement

Some exercises are more conducive to eliciting assessable indicators of a given process than are others. Table 8 shows processes considered likely candidates for evaluation by each class of exercise. Where inferential measurement of a process may be likely, an X is shown for that cell. If behavioral measurement is possible, a Y is entered in the cell matrix. If a process cannot be measured in that exercise, a O is shown.

The candidate processes shown in Table 8 are those which generally can be assessed in a specific exercise. However, the specific content of an exercise will be the determining factor. Once the content has been developed, it may be found that processes other than those shown in Table 8 can also be evaluated in that exercise. On the other hand, certain contents may not allow for the evaluation of one or more of the candidate processes shown in Table 8.

THE MODEL AND ITS APPLICATION

In the preceding sections of this chapter, the various elements contributing to a model for the development of assessment exercises were presented and discussed. In this section, the full model, to

Table 8

Candidate Processes for Measurement in Each Class of Exercises[1]

Processes	CLASSES OF EXERCISE										
	Interview		Table Exercise			Written	Simulations				
							Man-Ascendant				Man-Machine
	Assessment	Appraisal	Leaderless Group Discussion	Games	Group Problem Solving		In-Basket	Role Play	Controlled Simulate	Field Exercise	
1. Information acquisition	X	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2. Information processing	X	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3. Problem analysis	Y	X	Y	Y	Y	Y	Y	X	Y	Y	Y
4. Interactive diagnostic competence	X	X	X	X	X	0	0	X	0	X	0
5. Information transmission	Y	X	Y	Y	Y	Y	Y	Y	Y	Y	Y
6. Decision making	X	X	Y	Y	Y	Y	Y	Y	Y	Y	Y
7. Implementing decisions	X	X	Y	Y	Y	Y	Y	Y	Y	Y	Y
8. Supervision	0	0	0	0	0	Y	X	Y	Y	Y	Y

[1] X= Inferential measurement possible; Y= behavioral measurement possible; 0= no measurement possible.

Table 8 (cont'd)

Processes	CLASSES OF EXERCISE										
	Interview		Table Exercise			Written	Simulations				
							Man-Ascendant				
	Assessment	Appraisal	Leader-less Group Discussion	Games	Group Problem Solving		In-Basket	Role Play	Con-trolled Simulate	Field Exer-cise	Man-Machine
9. Organizational role performance	X	0	0	0	0	Y	Y	Y	Y	Y	Y
0. Interactive action competence	Y	Y	Y	Y	Y	0	X	Y	Y	Y	Y
1. Oral Communication	Y	Y	Y	Y	Y	0	0	Y	Y	Y	Y
2. Administration	X	0	X	Y	Y	Y	Y	Y	Y	Y	Y
3. Written communi-cation	0	0	0	0	0	Y	Y	0	Y	0	Y
4. Adaptability	X	X	X	X	X	X	X	X	X	X	X
5. Behavioral Style	X	X	X	X	X	X	X	X	X	X	X
6. Consideration	X	X	X	X	X	X	X	X	X	X	X
7. Intellectual	X	X	X	X	X	X	X	X	X	X	X
8. Motivation	X	X	X	X	X	X	X	X	X	X	X
9. Tolerance for ambiguity	X	X	X	X	X	X	X	X	X	X	X
0. Psychomotor be-havior	0	0	0	0	0	0	0	0	0	Y	Y

include relationships between the elements, will be described and an example of application of the model will be presented.

THE MODEL

Figure 4 shows the model, with the several steps required to be performed for the development of an effective assessment exercise. Each step will be described in the following discussion.

Step 1: Determine Assessment Purpose

An assessment program is initiated by an organization in response to some perceived need. This need will determine the purpose of the assessment. The three purposes described earlier are (a) selection and placement, (b) quality control, and (c) counseling and development. Each purpose has implications for the identification of critical attributes to be assessed.

Step 2: Job Analysis

One of the initial steps in development of an assessment exercise is to analyze the focal job, task, or position from a systems standpoint. Both the objectives of the job, task, or position and the contexts within which these objectives are usually achieved must be identified. Based on this identification, the activities required to attain the objectives within particular contexts, as well as all contributing factors, can be specified. The same approach is applicable for either hard or soft skills.

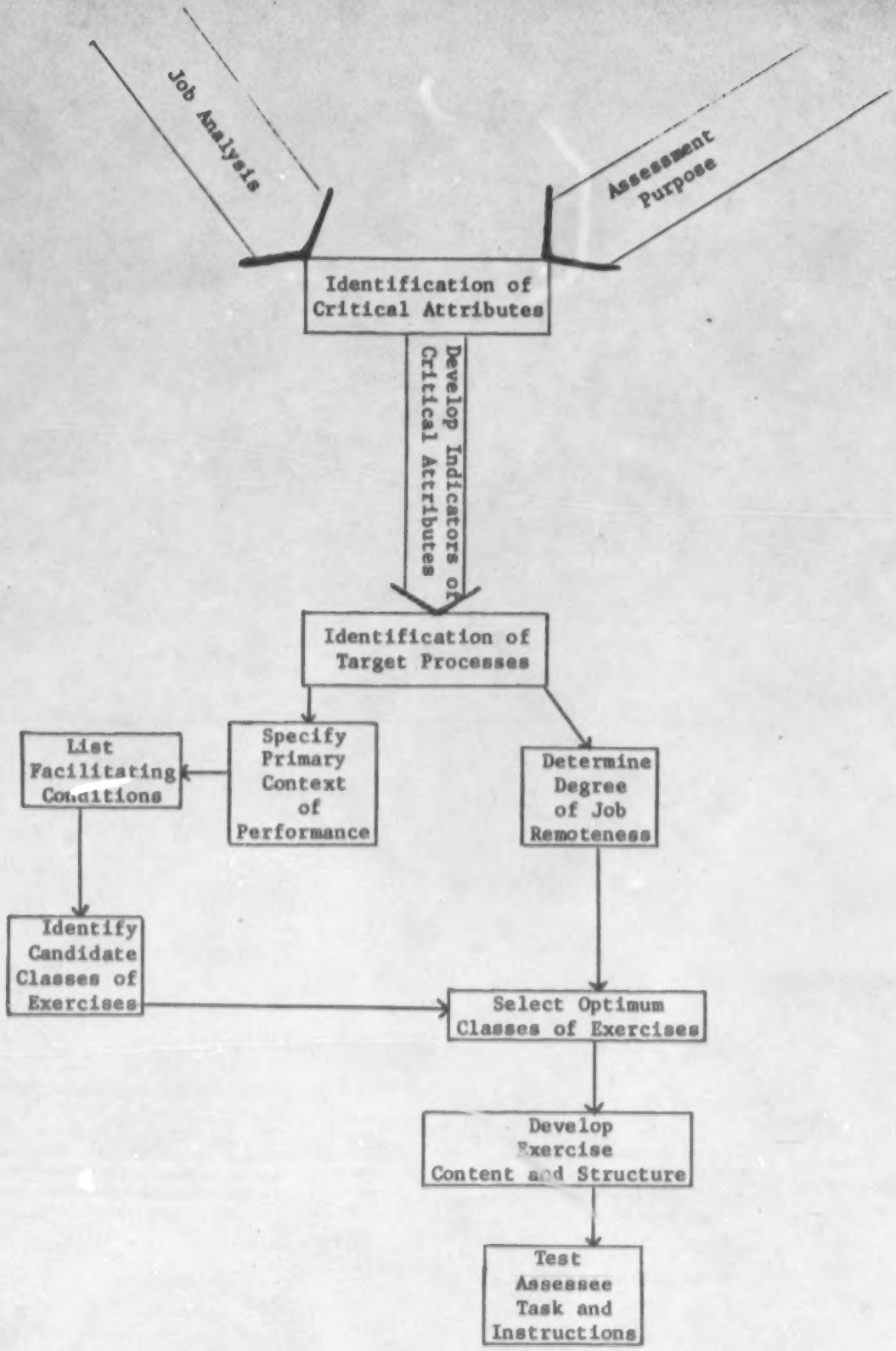
Job Analysis
Assessment Purpose
Identification of Critical Attributes
Develop Indicators of Critical Attributes
Identification of Target Processes
List Facilitating Conditions
Specify Primary Context of Performance
Determine Degree of Job Remoteness
Identify Candidate Classes of Exercises
Select Optimum Classes of Exercises
Develop Exercise Content and Structure
Test Assessee Task and Instructions

Figure 4. The Model

Step 3: Identification of Critical Attributes

Data resulting from job or task analyses serve as bases for identification of the attributes (skills, abilities, characteristics, etc.) which are critical for success or failure on the job. Determination of critical attributes is usually based upon the results of scientific studies, expert judgment, and inference.

If the assessment purpose is one of selection or placement, the critical attributes consist of personality aspects or skills which have been correlated with some criteria of job success. On the other hand, assessment conducted for the purpose of quality control requires that critical attributes be samples of knowledges or skills needed for performance in a current position.

If the assessment purpose is counseling and development, the critical attributes should be personality characteristics or skills which have been correlated with some criteria of success in the assessee's job or projected career.

The critical attributes should be stated as explicitly and specifically as possible and selection of them should be on the basis of a demonstrable relationship with job success.

Step 4: Develop Indicators of Critical Attributes

Once the critical attributes are identified, specific indicators of each attribute must be identified. At this point, the indicators should not be completely content bound, i.e., an indicator should be an abstraction from actual behaviors. An example is an indicator of

decision making which states that the individual "uses available information" rather than specifying just how the individual uses the information. The appropriate level of abstraction for indicators is that used in presentation of the process indicators in this report.

Step 5: Identification of Target Processes

The first step in accomplishing this activity is to compare the list of critical attribute indicators with the process indicators presented in Table 7 of this report. All indicators which are duplicated on the two lists should be identified and listed with the processes for which they are appropriate. The remaining indicators of critical attributes should then be reviewed and a determination should be made of the process appropriate for each. Upon completion of this activity, every indicator of the critical attributes should be subsumed under an appropriate process.

Step 6: Specify Primary Context of Performance

In the course of performing the job analysis, the situation in which job functions are usually performed was identified. This situation should be compared with the contexts of performance listed in the classification scheme (Table 6). The context which most accurately reflects the job situation should be selected.

Step 7: List Facilitating Conditions

The facilitating conditions presented in this report for each process should then be listed for each of the target processes to be assessed. Additional conditions may be specified also, if appropriate.

Step 8: Identify Candidate Classes of Exercises

The classes of assessment exercises should then be checked against (1) the target processes, (2) the specified context of performance, and (3) the facilitating conditions to determine which classes of exercises possess potential for effective assessment. Initially, each class of exercise which has potential for eliciting indicators of the target processes should be identified. Next, these identified classes and their associated characteristics should be reviewed in light of the specified context of performance and the facilitating conditions. Acceptable classes of exercises should be determined on the basis of whether or not exercises within them can be structured so as to allow for performance within the desired context and for inclusion of the required facilitating conditions.

Step 9: Determine Degree of Job Remoteness

This element of the model is critical to final selection of a class of exercises. The various degrees of job remoteness are discussed in this report with their implications for costs, staff requirements, and validity of assessment.

In determining the best level of job remoteness, consideration should be given to the particular conditions within which the exercise is to be developed and conducted. Thus, the purpose of assessment, the number of anticipated assessees, the type of job, permissible costs, available staff, and desired validity are representative of factors which must be considered in reaching a decision

as to the appropriate degree of job remoteness which should be reflected in the exercise. Frequently, the final decision will require a "trade-off" between several of these factors. Usually, costs decrease and control increases with an increase in job remoteness. Face validity will be reduced; however, because increased remoteness permits more effective controls of impact factors, predictive validity may well be enhanced. As a general rule, assessment exercises should be developed at the most remote practicable level.

Step 10: Select Optimum Classes of Exercises

After the desired degree of job remoteness has been determined, the list of candidate exercises should be reviewed. Final selection of the optimum classes of exercises should be based on the following criteria:

(1) Efficiency of assessment of target processes: The lower the number of exercise classes which will allow for reliable and valid measurement of all target processes, the more efficient will be the assessment program.

(2) Degree to which the desired degree of job remoteness can be achieved.

(3) Compatibility of each class of exercise with the organizational context and demands.

(4) Extent to which the requirements for conducting each exercise class are compatible with available resources.

(5) Type of job and general level of assessee population.

Other criteria which are unique to a particular situation may also require consideration.

Step 11: Develop Exercise Content and Structure

Once the final selection of optimum classes of exercise has been made, the specific content and structure of each exercise can be developed. While content may vary widely, it should generally reflect the organizational context within which the assessment is conducted. The structure of an exercise may vary widely, ranging from such common types as the In-Basket Test and Leaderless Group Discussion to completely unique exercises designed for specific purposes and special conditions. Numerous variations are possible and no restrictions upon structure are imposed by this model.

Step 12: Test Assessee Instructions and Tasks

After development of an exercise, both the task and instructions should be checked against the impact factors listed in this report. This check will permit determination of whether undesired assessee behaviors and effects are likely to result from some aspect of the tasks or instructions which have been developed. Some revision of the exercise may be necessary to avoid undesired impacts upon assessees.

After this check has been completed, the assessment exercise is ready to be pilot-tested.

Development of the necessary measuring instruments, which has not been touched upon in this report, would necessarily occur prior to the pilot test.

MODEL APPLICATION

The remainder of this report contains an example of an application of the model. Other than a specification of the purpose of the assessment, the sample application will not cover in detail those activities which were not extensively covered in this report, e.g., job analysis and identification of attributes critical to job success. Sufficient literature concerning these activities is available to compensate for any lack of experience concerning them.

First, the description of an organizational context will be presented and the target position, as well as the assessment purpose, will be described. The activities necessary for acquiring the information to be used in the model will be specified. Next, the application of the model will be discussed in detail. Finally, aspects which should be especially emphasized will be discussed.

Organizational Context

The X-Z Corporation is a large nationwide company which manufactures electronic components. The company has a large number of small plants located across the nation. The plants are small and the director of each plant is responsible to the national organization.

The company attempts to maintain consistent standards, policies, etc., throughout the organization, and requires adherence to established procedure.

The president of the corporation recently attended a conference at which assessment centers were discussed. Upon returning, the president informed you that you are now the Assessment Exercise Developer. You are charged with developing an assessment exercise or exercises which could be used to select second-level management personnel for a number of new plants which are currently under construction. A sufficient number will be required to justify the establishment of a formal assessment program.

These individuals are to be selected from first-level, management personnel, since the organization's policy is internal promotion on a merit basis. However, the president pointed out that, since the people that would be selected are currently employed, a substantial amount of information is already available. He felt that you should focus on administrative-type skills, as the job functions of the first-level supervisor require minimal activity in this area.

At this time, your only responsibility is the development of the exercise(s) which you feel are sufficiently valid to warrant a pilot test. The assessment purpose of selection and placement has been specified. Initially, a job analysis would be conducted. Such

information sources as (a) job descriptions, (b) interviews with position incumbents, and (c) review of organizational charts and procedures could be used in the analysis. The critical incident technique (Flanagan, 1949) represents one method for using information from job incumbents in the identification of attributes critical to job success or failure. Using such sources as those specified above, as well as any others which are available, the critical attributes can be identified.

While these critical attributes can take different forms, they will frequently be described in terms of very specific knowledges and skills, e.g., the second-level manager knows that Form 21 must be completed to obtain a company vehicle; the second-level manager is able to state the company's affirmative action plan. The process of developing indicators for the critical attributes will involve grouping various knowledges and/or skills on some selected basis. The indicators represent the next level of abstraction above the specific knowledges and skills (the critical attributes). The grouping will usually be on the basis of the focus of the knowledges and skills, e.g., those dealing with completing forms and those which concern machine operation. The indicators which are developed should be at the level of abstraction represented by the indicators presented in this report.

Detailed Operationalization of Aspects of the Model

Assume that the critical attributes have been identified and the following indicators were developed, keeping in mind that only indicators relevant to administrative-type activities are of concern here:

1. Issuing written instructions concerning implementation methods and/or feedback procedures.
2. Specifying the sequencing of intermediate goals and tasks.
3. Determining time requirements for tasks.
4. Developing plans which recognize long-range as well as short-range requirements.
5. Assessing and utilizing organizational resources.
6. Coordinating actions of individuals.
7. Determining organizational requirements.
8. Assigning task responsibility and delegating authority.
9. Identifying responsibilities which should be delegated.
10. Identifying the impact of previous actions, instructions, or decisions on the internal and/or external environment of the organization.
11. Formulating documents.
12. Completing forms.
13. Demonstrating a consistent level of performance in unstructured situations.
14. Demonstrating a capacity to function in an unstructured situation without seeking additional guidance.

15. Selecting relevant information for transmission.
16. Identifying the appropriate information consumer.
17. Determining appropriate format for information presentation.
18. Transmitting information.
19. Organizing information.
20. Using available information.
21. Selecting one from available courses of action.
22. Selecting a course of action within a specified time frame.
23. Identifying a requirement for information.
24. Detecting the availability of information.
25. Identifying information source(s).
26. Obtaining information.
27. Relating discrete items of information.
28. Identifying relevant information.
29. Organizing information into appropriate form.
30. Extrapolating or interpolating on the basis of information received.

Once indicators for the critical attributes have been developed, they are related to the list of indicators presented in Table 7 of this report, and to the processes subsuming the indicators.

Target Processes. The processes which subsume the developed indicators are as follows:

Process	Developed Indicators
Administrative	1-12
Tolerance of Ambiguity	13-14
Information Transmission	15-19
Decision Making	20-22
Information Acquisition	23-26
Information Processing	27-30

Processes other than the "Administrative" are listed because they also reflect administrative types of activities. Since the developed indicators reflect the critical job attributes identified in the job analysis, the processes subsuming the developed indicators are therefore related to job success.

Primary Context of Performance. The next step in application of the model is to specify the primary context of performance. In this case, the primary context is Indirect because second-level management is more frequently involved with "paperwork" than in interacting with others. If the job functions involved interacting with people more frequently than paperwork was required, the primary context would have been interpersonal.

Facilitating Conditions. Once the primary context of performance has been identified, the facilitating conditions for each identified target process should be listed. The facilitating conditions for each of the target processes are presented elsewhere in this report and will not be listed here.

Candidate Classes of Exercises. The AED should next consult Table 8 of this report to identify the candidate classes of exercises. Candidate classes are those which will yield measures of the target processes, ideally on a behavioral measurement basis. The AED should also keep two factors in mind when selecting the candidate exercises, the facilitating conditions and the primary context of performance. The candidate exercises which are selected should be such that they can be performed in the primary context of the job and can be designed to include the necessary conditions.

Review of Table 8 indicated that all but one of the target processes (Tolerance of Ambiguity) could be behaviorally measured in each of the following:

Class of Exercise	Example
Table Exercise	Games Group Problem Solving
Written Exercise	Questionnaire
Simulations Man-Ascendant	In-Basket Role Play Controlled Simulate Field Exercise
Man-Machine	

It would seem that almost all the classes of exercises would be suitable candidates. However, at this point, facilitating conditions and performance context impacted heavily on the set of candidate exercises. Since the primary context for performance of the job functions of interest is indirect in nature, involves no interaction

with others, and requires a great deal of paperwork, most of the exercises listed above were automatically excluded. The only two exercises remaining for consideration were (a) a written exercise and (b) the in-basket exercise.

Review of the facilitating conditions revealed the complexity of the situation necessary to elicit indicators of the target processes. It was considered most unlikely that a written questionnaire would elicit sufficient indicators of the target processes to justify its use. Therefore, the in-basket exercise was selected as the candidate exercise.

In this case, only one candidate was selected. Two points should be stressed at this time. The first is that only the exercises presented as examples of each class of exercise were considered in selecting candidate exercises. A creative AED may have developed variations of the examples, or entirely new exercises which fall within a given class of exercise. Second, as in this case, a particular group of target processes may result in one exercise clearly being most appropriate for assessment of those processes. A different group of target processes could have resulted in three or four exercises being selected as candidates. Assessment situations vary along many dimensions and each must be closely examined by the AED prior to any conclusions regarding development of the assessment exercise.

Degree of Job Remoteness. Prior to final selection of the optimum classes of exercises and their content, the AED should determine the

appropriate degree of job remoteness for the exercises. In this case, since only one candidate exercise was identified, the AED related the degree of job remoteness to the exercise content. The AED decided that an appropriate degree of remoteness would be reflected in the simulated-job assessment, which involved the development of a situation in which the environment and task simulated those of the actual job.

Selected Optimum Class of Exercises. In this case, no activity was required by this aspect of the model as only one candidate exercise had been identified. For situations in which multiple candidates have been identified, final selection of optimum classes would be made on the basis of the criteria presented earlier.

In connection with selection of an optimum class of exercises, a frequently ignored but critical criterion is the general capabilities of an anticipated assessee population for coping with certain classes of exercises. Here, considerations include not only the organizational level of assessees but, also, experience, intellectual ability, reading ability, etc. An AED should accumulate sufficient data on the assessee population for a realistic evaluation of the capabilities of assessees to cope with the demands of each class of exercise.

Exercise Content and Structure. The AED was now faced with the task of developing an in-basket exercise containing a content which simulated some segment of the actual job. The method which was used is one that has effectively been employed in various organizational

contexts. The AED collected the contents of the in-baskets of a large number of individuals currently occupying second-level management positions. The items were reviewed and approximately 50 were selected. Those selected represented a range of situations with which a second-level manager was expected to deal.

A standard in-basket exercise structure was developed. Usually the assessee is given about three hours to deal with the in-basket items. The assessee is required to write all decisions, actions to be taken, etc., on paper so that they can be evaluated.

Assessee Task and Instructions. The AED had now developed an assessment exercise. However, to insure that the behaviors evoked by the exercise would closely correspond to those desired, the AED first tested the exercise against the list of impact factors presented in this report. This test assured the AED that nondesired behaviors and effects were not likely to be elicited by either task or instructional factors in the assessment exercise.

Subsequent to this activity, the AED designed the assessment instruments and pilot-tested the exercise.

SUMMARY

The fundamental problem in the development of effective assessment exercises is to create conditions that will evoke behavior which is observable, measurable, and relevant to attributes which are the planned targets of assessment. The model presented in this section is intended to assist exercise designers to overcome this problem.

The model consists of a series of steps which, when followed, require exercise designers to consider a variety of factors which both research and experience have shown to be determinants of behavior within most assessment situations. Wherever it was feasible, the attempt was made to provide schemes for systematically classifying the various contributing factors so that ease and simplicity in using the model will be maximal.

Strict adherence to the model should produce the most satisfactory results. However, such adherence alone will not automatically result in effective assessment exercises. A model can only outline critical choice points, identify factors to be included in the consideration of decisions, and provide some guidance for evaluating the merits of alternatives. Therefore, best results will be obtained when use of the model is accompanied by sound judgment and careful consideration of the many possible unforeseen circumstances which can impact upon human behavior.

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APPENDICES

APPENDIX A

Description of General Indicators

1. Skill in Informal Oral Communication. The score for this general indicator was based on seven assessment measures obtained in five assessment exercises: (1) Entry Interview, (2) Leaderless Group Discussion, (3) Conglomerate Game, (4) Appraisal Interview, and (5) the Simulate. Simulate behavior checklist scales were used for the ANCOES and IOAC groups. The ANCOES scale--Communication Skill--was a five-item scale. The IOAC scale--Informal Oral Communication--was a three-item scale. The central emphasis in the ratings was the assessee's ability to convey his ideas to others, and to be tuned in to the ideas of others, while functioning in an informal setting.

The rating scales comprising Skill in Informal Oral Communication are as follows:

Entry Interview No. 1

To what extent does he effectively convey information?

a. Misunderstood; talks in circles; mumbles.
b.
c. Gets ideas across adequately.
d.
e. Easily conveys information; adjusts communication to listener.

Entry Interview No. 4

To what extent is he animated and enthusiastic?

a. Idle; passive; lethargic.
b.
c. Quiet; routine; matter-of-fact.
d.
e. Lively; moving; vigorous.

Leaderless Group Discussion II-6

Communication Skill. This scale deals with the ease with which the assessee conveyed his ideas to others and not with his amount of participation. It is not concerned with grammar or pronunciation, but rather with whether others listened and whether they quickly understood what he was trying to say. It also deals with whether the assessee listened well and was tuned in to the other group members' ideas.

Positive Behaviors	Negative Behaviors
Put his ideas into words well.	Was verbose; talked on after others had the idea.
Was alert; nodded; listened.	Acted bewildered.
Made comments which facilitated the current flow of communication.	Asked for repeated explanations or clarifications.
Used nonverbal communication.	Talked without getting ideas clear to himself first.
Made good clarifications of others' ideas.	

Scale:

a. Very low communication skill. Predominantly negative behaviors shown.
b. Moderately low communication skill. More negative than positive behaviors shown.
c. Average communication skill. About an even mixture of positive and negative behaviors shown.
d. Good communication skill. More positive than negative behaviors shown.
e. Very good communication skill. Predominantly positive behaviors shown.

Conglomerate Game III-5

Oral Communication. Conveying ideas and listening to others. This scale is not concerned with grammar or pronunciation, but rather with whether others listened and understood what was said. Not a measure of participation.

Scale: a. Poor.
b. Fair.
c. Average.
d. Good.
e. Excellent.

Appraisal Interview III-2

Oral Communication. This scale is directed at the assessee's ability to speak (not the quality of his ideas).

Good Qualities	Poor Qualities
Modulates voice.	Mumbles or stammers.
Pronounces words correctly.	Speaks abruptly.
Enunciates clearly.	Makes grammatical errors.
Speaks up.	Loses train of thought.
Gestures appropriately.	Speaks into hands.

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

Simulate Global Rating

Communication Skills

Characteristics of Effectiveness

Communicating effectively with others by presenting ideas or facts in a clear and concise manner; organizing the content of his communications into a logical order; achieving an appropriate level of detail; articulating clearly; displaying an appropriate vocabulary level; demonstrating accurate understanding of communications addressed to him; using jargon or special language only when it facilitates communication; obtaining feedback from his listener to test understanding of his communications.

Characteristics of Ineffectiveness

Communicating ineffectively with others by omitting or obscuring critical ideas or facts; distracting listeners by using emotion-laden terms or language; speaking hesitantly; asking irrelevant questions; irritating listeners by belaboring points; making distracting grammatical errors.

Simulate Scales:

Communication Skill (ANCOES)
Informal Oral (IOAC)

2. Skill in Formal Oral Communication. The score for this general indicator is composed of five rating scales from three assessment exercises: (1) Entry Interview, (2) Leaderless Group Discussion, and (3) Appraisal Interview. The ratings relate to fluency, speaking ability, and the ability to organize material for formal presentation.

The rating scales comprising Skill in Formal Oral Communication are as follows:

Entry Interview No. 3

To what degree is he fluent and articulate?

a. Stammers; mutters; mispronounces and misuses words.
b.
c. Adequate grammar and speech mannerisms.
d.
e. Clear; distinct; expressive.

Leaderless Group Discussion I-1

Speaking Ability. This scale is directed toward the assessee's speaking ability and not the quality of his ideas.

Good Qualities	Poor Qualities
Voice modulation for effect.	Mumbling; stammering.
Effective use of pauses.	Repetitious use of uh, you know.
Clear pronunciation.	Poor grammar.
Good volume.	Loss of train of thought.
Appropriate gestures.	Running ideas together.
Facial expressions.	Flat monotone voice.

Scale:

a. Poor speech quality. Most poor qualities shown.
b. Fair speech quality. Many poor qualities, a few good qualities shown.
c. Average speech quality. Few poor qualities, several good qualities shown.
d. Good speech quality. Almost no poor qualities, many good qualities shown.
e. Excellent speech quality. Most good qualities shown.

Leaderless Group Discussion I-2

Organization. This scale deals with the way the assessee handled the materials given to him in his presentation to the group. Much of the effectiveness of his presentation depends on his selection of items to use and the way he chooses to arrange them.

Organization	Lack of Organization
Some form of introduction.	Reading lists of non-relevant information.
Recognition of points made by others or which could have been made by others.	No mention or explanation of weaknesses.
Grouping strong points.	Trying to cover too many things.
Mentioning and explaining weaknesses.	No difference in emphasis of different points.
Assigning varying priorities or values to different points.	Uses handout forms as crutch (overreliance on written material).
A good brief summary reemphasizing strong points.	

Scale:

a. No evidence of organization. Most lacks shown.
b. Little organization. Many lacks, a few organization qualities shown.
c. Moderately organized. A few lacks and several

Leaderless Group Discussion I-3

Presentation Impact. This is an overall rating of the presentation. Though it is partly organization and speaking ability, it is much more. It is possible that a person with good speaking ability could give a fairly well-organized presentation and have little impact. Some of the things which contribute to impact are:

Self-confidence	Maintaining attention of other assessees
Eye contact	Effective use of gestures
Use of names of other assessees	Effective use of humor
Use of blackboard or easel	Use of personal reference

Scale:

a. Very weak impact.
b. Weak impact.
c. Moderate impact.
d. Strong impact.
e. Very strong impact.

Appraisal Interview III-3

Use of Worksheets. This scale is directed at the assessee's ability to use his outline worksheet and his narrative worksheet.

Good Qualities	Poor Qualities
Uses outline as a guide.	Heavy reliance on worksheet.
Jots notes on narrative.	Writes continuously.
Covers areas in the outline.	Neglects worksheets.
Departs into meaningful areas.	Gets lost in worksheet.

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

3. Skill in Written Communication. This score is made up of seven items from three assessment exercises: (1) In-Basket, (2) Appraisal Interview, and (3) the Writing Exercise. The ratings include clarity, accuracy, and completeness of the assessee's written material, as well as grammatical correctness.

The rating scales comprising Skill in Written Communication are as follows:

In-Basket No. 1

Written Communications Skill

_____ a. Meaning of [illegible] message is clearly understood by the reader, well organized with no glaring errors in grammar and spelling.

____ b.

____ c. Average readability and clarity, generally accurate, occasionally effected by spelling and grammar.

____ d.

____ e. Meaning of the message obscured, poor clarity, inaccurate, very weak grammar and spelling.

Appraisal Interview II-1

Written Communication. This scale is directed at the assessee's ability to communicate by writing an evaluative narrative.

Good Qualities	Poor Qualities
Is grammatically acceptable.	Writes illegibly.
Has good vocabulary.	Has poor spelling.
Is easy to follow.	Makes poor choice of words.
Writes clear and complete descriptions.	

Scale:
a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

Appraisal Interview II-2

Organization. This scale is directed at the assessee's ability to follow the instructions and organize his narrative within three areas (description, selection, and explanation).

Good Qualities	Poor Qualities
Describes candidate.	Has confused sections.
Makes selection.	Focuses on only one candidate.
Explains choice.	Rambles; is without structure.

Scale:
a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

Writing Exercise No. 1

Accuracy of Information:

1	2	3	4	5
No Errors	One Error	Two Errors	Three Errors	Four or More Errors

Writing Exercise No. 2

Grammar:

5	4	3	2	1
Obvious Glaring Grammar Errors		Adequate		Good General English Usage

Writing Exercise No. 3

Spelling:

1	2	3	4	5
No Errors	One Error	Two Errors	Three Errors	Four or More Errors

Writing Exercise No. 5

Completeness: The following information is required for a complete statement. Indicate what information was included by a check mark.

____ a. Both writer and subject to include name, grade, SSAN, unit (down to and including writer's element).

____ b. Dates of assignment to supervisor's platoon. This should be a from - to date inclusive of all time assigned.

____ c. Number, reasons, and dates of counseling periods. This may be listed or it may be written out.

____ d. Number of Article 15's and offenses while under supervisor's control. This may be listed or it may be written out.

____ e. Rehabilitative Action Taken by Supervisor: Transfer within the platoon.

____ f. Recommendations - Summary: This should summarize man's future potential to the Army and make a recommendation or action that should be taken relative to individual at this time, i.e., discharged (unfit or unsuitable), retained with unit transfer, counseled by trained personnel, etc.

1	2	3	4	5	6
0-One Item Included	Two Items Included	Three Items Included	Four Items Included	Five Items Included	Six Items Included

4. Intellectual Ability. This score is made up of two rating scales, one from the Entry Interview and one from the LEADER War Game. The scales have to do with the assessee's comprehension of the game problem and with his general range of interests.

The scales comprising Intellectual Ability are as follows:

Entry Interview No. 6

How do you rate him on range of interests?

a. Familiar with a broad range of topics.
b.
c. Limited in range of interests.
d.
e. Narrow range of interests.

War Game IV-2

Problem Comprehension. This scale is directed at the assessee's understanding of the problem. It will be demonstrated by the questions he asks others, as well as the quality of recommendations he makes to the leader.

Scale:
a. Understood the game very well.
b. Good understanding of the game.
c. Moderate understanding of the game.
d. Poor understanding of the game.
e. Very poor understanding of the game.

5. Creative Ability. This score is based on one assessment rating scale from the Entry Interview, as follows:

Entry Interview No. 13

How do you rate his creativity in envisioning the Army changing with a changing nation and world?

a. Many unique and thoughtful ideas about the Army's adaptation.
b.
c. Comments show appreciation of some changes needed, little uniqueness in changes unforeseen.
d.
e. Fails to appreciate need for change; minimizes adaptation needed.

6. Effectiveness in Interpersonal Situations. This score is based on one assessment rating scale, the simulate global rating for Social Skills (Interpersonal Competence), which is reproduced as follows:

Simulate Global Rating

Social Skills (Interpersonal Competence)

Characteristics of Effectiveness

Dealing effectively with others by quickly diagnosing important aspects of interpersonal situations; reacting sensitively to the needs of others; communicating sincerity and a genuine interest in others; maintaining or increasing the self-esteem of others during his interaction with them; generating willing acceptance of his influence.

Characteristics of Ineffectiveness

Dealing ineffectively with others by focusing almost entirely on the task and ignoring needs of others during his interaction with them; showing little awareness or concern about the effects of his behavior on others; attempting to dominate others rather than working toward cooperation and mutual trust; damaging the self-esteem of others.

7. Positive Impression. This indicator is based on two rating scales, one each from the Entry Interview and the Leaderless Group Discussion.

The scales are as follows:

Entry Interview No. 2

How do you rate his cheerfulness and sense of humor?

a. Very witty; bright; a sharp sense of humor.
b.
c. Pleasant; a good conversationalist.
d.
e. Dull; humorless; no attempt at brightening conversation.

Leaderless Group Discussion II-5

Negative Social Impression. On this scale, the ratings should reflect the degree to which the behaviors of the assessee were likely to rub others the wrong way. Some behaviors likely to create a negative social reaction are:

Attacking another's position without regard to effect on personal feelings.
Cutting off another person while speaking.
Derogating ideas presented on policy or procedure.
Overtly showing superiority - arrogance.
Personal attack.
Displayed a negative attitude that affected other's willingness to participate.

Scale:
a. A high amount of negative behavior shown.
b. A moderate amount of negative behavior shown.
c. A low amount of negative behavior shown.
d. Little or no negative behavior shown.
e. Not observed.

Note: A scoring adjustment was made for each of the above items. For the Entry Interview item a=5, b=4, c=4, d=3, and e=1. For the Leaderless Group Discussion item a=1, b=2, c=4, d=4, and e=no score (missing data).

8. Effectiveness in Influencing Others. Nine rating scales were included in this indicator, two each from the Leaderless Group Discussion, LEADER War Game, and Conglomerate Game, and three from the Assigned Leader Field Exercise (ALGE). Emergent leadership and group facilitation are both emphasized in this composite score.

The rating scales comprising Effectiveness in Influencing Others are as follows:

Leaderless Group Discussion II-2

Group Leadership and Facilitation. This scale deals with behaviors directed toward getting the group to carry out procedures aimed at accomplishing the goal of group decision. It is independent of attempts by the assessee to get his man chosen or his projects funded. Independent means that behaviors by the assessee may sometimes help or sometimes hinder his projects or candidate. The assessee may abandon his position in pushing for a group decision or he may use group leadership/facilitation as a strategy in support of the interest he represents. His group leadership attempts should be rated independently from his attempts to gain support for his projects or candidate. Some group leadership/facilitation behaviors are:

- Recommending organizational procedures.
- Calling for votes.
- Summarizing expressed feelings.
- Calling for priorities.
- Recommending policy emphasizing group task.
- Acting as ongoing recorder/secretary.
- Asking for policy suggestions.
- Controlling interaction (e.g., by calling on some members or cutting off others).
- Redirecting discussion.
- Pushing for meeting time deadlines.
- Stating group conclusions.

Scale:

a. Very little leadership/facilitation displayed.
b. Little leadership/facilitation shown.
c. Average leadership/facilitation shown.
d. Fair amount of leadership/facilitation shown.
e. Considerable leadership/facilitation shown.

Leaderless Group Discussion II-3

Persuasiveness. This scale deals with the manner and success with which the assessee argued for his projects or candidates. It deals primarily with the effectiveness of his persuasive behaviors. If the assessee made little or no attempt at persuasion, he could not be very effective. On the other hand, an assessee might show great skill while trying various persuasion strategies and still not win all his objectives. The highest ratings should go to assessees who showed awareness of resistance areas, and who showed some adaptability in their overall persuasion program and not simply to the man whose projects or candidate were finally supported.

Effective Persuasive Behaviors	Ineffective Persuasive Behaviors
Challenging other's arguments without offending.	Repetition of the same points when they have not had impact.
Rebuttal of challenge without offending.	Argument which is offensive.
Anticipation of weaknesses and having reactions prepared.	Failure to counteract attacks on weak points.
Trading support with other assessees (forming alliances).	Arguments which do not recognize policy adopted by the group.

Scale:

a. Mostly ineffective in persuasion.
b. More ineffective than effective in persuasion.
c. Mixed effective and ineffective persuasive behaviors.
d. More effective than ineffective in persuasion.
e. Mostly effective in persuasion.
f. Not observed.

War Game III-2

Leadership. This scale is directed at the appointed leader's ability to influence members of the team. The impact of the leader on others, as well as the leader, must be observed to complete this scale. Examples of good leadership behaviors include displaying initiative, issuing instructions, assigning tasks and responsibilities, and supervising performance.

Scale:

a. Very good leadership.
b. Good leadership.
c. Moderate leadership.
d. Poor leadership.
e. Very poor leadership.

War Game IV-3

Leadership Emergence. This scale is directed at the assessee's ability to emerge as a leader when he is in a follower role. An emergent leader does much of the directing and makes frequent suggestions which are supported by the group. In many cases, little emergent leadership will be displayed. Do not be concerned if most assessees appear below average on this scale.

Scale:

a. No emergent leadership displayed.
b. A small amount of emergent leadership displayed.
c. Moderate emergent leadership displayed.
d. High amount of emergent leadership displayed.
e. Very high amount of emergent leadership displayed.

Conglomerate Game III-2

Group Facilitation. Pulling self and others toward the group goal and working towards winning.

Scale:

a. Poor.
b. Fair.
c. Average.
d. Good.
e. Excellent.
f. Not Observed.

Conglomerate Game III-3

Leadership Emergence. Leading and directing the group effort in whatever direction or game strategy undertaken.

Scale:

a. Poor.
b. Fair.
c. Average.
d. Good.
e. Excellent.
f. Not Observed.

ALGE III-1

Emergent Leadership. This scale is directed at the assessee's ability to emerge as the leader, when he is in a follower role.

Good Qualities	Poor Qualities
Take charge.	Makes no attempt to lead.
Makes valued suggestions.	Suggestions disregarded by group.
His instructions are followed.	
He does much/most of the directing.	

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

ALGE III-2

Group Facilitation. This scale is directed at the assessee's ability to pull the group towards the goal.

Good Qualities	Poor Qualities
Actively assists.	Displays no enthusiasm.
Does his share or more.	Makes negative comments.
A key man in all the tasks.	Waits to be told what to do and/or when to do it.
Takes action on his own at obstacles/mission sites.	No suggestions.

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

ALGE I-2

Leadership. This scale is directed at the assessee's ability to lead, i.e., influence the group to carry out procedures aimed at accomplishing the goal.

Good Qualities	Poor Qualities
Issues instructions.	Does not control.
Sets example.	Allows others to take the lead.
Supervises performance.	Trys to do everything himself.
Makes corrections.	Overdirects.
Encourages.	
Assigns tasks/responsibilities.	

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

9. Effectiveness in Working With Superiors. This general indicator is made up of two scales, an assessor rating on effectiveness in working with superiors from the In-Basket exercise and a behavioral checklist scale from the Simulate. For the IOAC group, the Simulate scale is Working With Superiors; for IOBC and ANCOES, the scale is Informing Superiors.

The rating scales comprising Effectiveness in Working With Superiors are as follows:

In-Basket No. 14

Working With Superiors:

____ a. Often failed to implement decisions, to keep the commander informed, or to provide meaningful recommendations.

____ b.

____ c. Effective in some areas.

____ d.

____ e. Worked effectively with superiors by implementing decisions, by keeping the commander informed, and by providing meaningful recommendations.

Simulate Scales:

Working with Superiors, 18 items, IOAC.
Informing Superiors, 15 items, IOBC.
Informing Superiors, 9 items, ANCOES.

10. Organizational Ability. This general indicator is composed of three scales: (1) an assessor rating on the assessee's quality of organization selection, while performing in the LEADER War Game; (2) a rating of the assessee's planning and organizing during In-Basket exercise performance; and (3) Simulate checklist scales for the ANCOES and IOBC groups.

The rating scales comprising Organizational Ability are as follows:

War Game III-1

Organization. This scale deals with the quality of the organization the leader selected. Much of the effectiveness of the team depends upon adequate organization. A good organization handles the functions of offensive systems, defensive systems, research and development, intelligence and comptroller, as well as allowing the leader to plan, direct, and supervise the team's activities.

Scale:

a. Very poor organization.
b. Poor organization.
c. Moderate quality of organization.
d. Well organized.
e. Very well organized.

In-Basket No. 2

Planning and Organizing:

____ a. Failed to plan work, organize materials, or establish priorities.

____ b.

____ c. Made some plans with a little organization. A few priorities were established.

____ d.

____ e. Formulated a strategy to accomplish the task, displayed organization in his approach to the items, clearly established priorities.

Simulate Scales:

Administrative Skills, 7 items, ANCOES.
Coordinates Activities, 6 items, IOBC.

11. Planning Ability. This general indicator is made up of six rating scales from four exercises--one each from the LEADER War Game and the ALGE Field Exercise, and two each from the In-Basket exercise and the Appraisal Interview. In addition to general ratings of Planning Ability, scales in this indicator are also concerned with attention to detail and problem analysis in the In-Basket exercise, and selection and organization of topics for the Appraisal Interview.

Scales comprising Planning Ability are as follows:

War Game III-3

Planning. This scale is directed at the quality of the leader's plan to accomplish the tasks the game presents while he is leader. Good qualities include actions which demonstrate an analysis of the task such as good use of time and tentative budget allocation to subordinates, as well as attention to detail and completeness.

Scale:

a. Very poor planning.
b. Poor planning.
c. Moderate quality planning.
d. Good planning.
e. Very good planning.

In-Basket No. 9

Attention to Detail:

____ a. Rarely recognized details.

____ b.

____ c. Some decisions were affected by assessee failing to recognize significant points.

____ d.

____ e. Recognized details or problems that most people failed to pick up.

In-Basket No. 3

Problem Analysis (five designated problems):

____ a. Always made excellent problem analysis.

____ b.

____ c. Made good problem analysis on three of the five designated problems.

____ d.

____ e. Rarely made correct problem analysis.

Appraisal Interview I-1

Organization. This scale is directed at the assessee's ability to outline and organize the elements and topics of the interview.

Good Qualities	Poor Qualities
Acknowledges need for rapport.	Writes out script.
Allots time for each area.	Allocates time unrealistically.
Sequences topics to be covered.	Prepares too many topics.
Acknowledges need for closure.	Prepares too few topics.
Starts slowly with easy topics.	Does not outline (lists).

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

Appraisal Interview I-2

Topics. This scale is directed at the assessee's ability to select meaningful and relevant, but not sensitive, topics for the interview.

Good Qualities	Poor Qualities
Has meaningful content.	Has irrelevant topics.
Makes effort to be thorough.	Has sensitive topics.
Has job-specific content.	Rambles; fails to focus on topics.

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

ALGE I-1

Planning. This scale is directed at the quality of the assessee's plan.

Good Qualities	Poor Qualities
Plan addresses both obstacle and task.	Plan incomplete.
Plan includes organization of team.	Plan does not address organization.
Plan includes appropriate selection of items.	No selection of items included.
Plan includes contingencies.	No apparent plan at all.
Plan includes attention to detail.	Plan ignores critical details.

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

12. Directing Ability. This general indicator includes one rating scale from In-Basket exercise, which rates the correctness of the assessee's delegation of actions or decisions, and Simulate behavior checklist scales for the IOAC and IOBC groups.

Scales comprising Directing Ability are as follows:

In-Basket No. 5

Directing Ability:

____ a. Decisions or actions were delegated to the correct individuals.

____ b.

____ c. Occasionally delegated appropriate actions.

____ d.

____ e. Usually failed to recognize where a decision or action should be delegated.

Simulate Scales:
Directing, five items, IOAC.
Appropriate Instructions, four items, IOBC.

13. Work Motivation. This indicator is made up of three rating scales: (1) a rating of assessee's attitude toward the Army as a work environment, from the Entry Interview; (2) a rating of motivation/attitude from the ALGE Field Exercise; and (3) the Simulate global rating of motivation.

Scales comprising Work Motivation are as follows:

Entry Interview No. 12

How do you rate his attitude toward the Army as a work environment?

a. Rather negative; says little of a positive nature.
b.
c. Mixed; some positive and some negative comments about Army work atmosphere.
d.
e. Generally positive; a few constructive criticisms.

ALGE II-1

Motivation/Attitude:

Good Qualities	Poor Qualities
Enthusiastic.	Negative comments.
Positive statements.	Waits to be told what to do.
Eager.	Needs prodding.
Does his share or more.	Lack of humor.
Initiates action.	Complains or makes discouraging remarks.
Encourages others.	
Accepts the problem.	

Scale:
a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

Simulate Global Rating

Motivation

Characteristics of Effectiveness

Maintains a high level of motivation as evidenced by approaching new tasks in a positive manner; desiring to complete work on time; maintaining realistically high standards for the quality of work; persevering in the face of barriers to task accomplishment; displaying high level of concentration upon accomplishment of objectives or missions.

Characteristics of Ineffectiveness

Maintains a low level of motivation by taking a negative attitude toward initiating new tasks; maintaining quality standards which are lower than can be tolerated by the organization; pursuing personal goals at the expense of organizational goals; failing to display any initiative in performing duties or solving problems.

14. Social Motivation. This indicator consists of four rating scales, one each from Leaderless Group Discussion, Conglomerate Game, In-Basket, and the Appraisal Interview. The scales are primarily concerned with rating the assessee's concern and sensitivity for the feelings of others, and with the need for establishing rapport and friendly relations.

The scales comprising Social Motivation are as follows:

Leaderless Group Discussion II-4

Concern with Social Interaction and Personal Feeling. This scale deals with sensitivity to feelings as opposed to driving task orientation. It involves sensitivity to negative feelings aroused by the assessee and by others in the group. More than this, it shows positive concern for establishing friendliness in addition to accomplishing the task at hand. Some behaviors showing concern for feelings and social interaction are:

Smiling.
Joking.
Questions about personal background which show genuine interest.
Sharing personal information.
Smoothing over a hostile interaction.
Apologizing when offense is taken.
Showing support for the value of another's ideas when they are rejected.
Inviting participation by a nervous, reticent group member.

Scale:

a. No social concern shown.
b. Little social concern shown.
c. Moderate social concern shown.
d. Fairly high social concern shown.
e. Very high social concern shown.
f. Not observed.

Conglomerate Game III-4

Social Interaction. Sensitivity to feelings as opposed to driving task orientation. Involves sensitivity to negative feelings aroused by the assessee and by others in the group. It shows positive concern for establishing friendliness, in addition to accomplishing the task at hand.

Scale:

a. Poor.
b. Fair.
c. Average.
d. Good.
e. Excellent.
f. Not Observed.

In-Basket No. 10

Sensitivity:

____ a. Frequently concerned with the welfare of others; perceived and reacted sensitively to their needs.

____ b.

____ c. Occasionally concerned with the welfare of others.

____ d.

____ e. Seldom reacted sensitively to others. Demonstrated a disregard for the welfare of subordinates.

Appraisal Interview III-4

Accommodation. This scale is directed at the assessee's ability and willingness to put himself out and work at establishing a modicum of rapport and creating a semblance of a comfortable atmosphere.

Good Qualities	Poor Qualities
Smiles and nods.	Acts superior.
Is relaxed.	Acts incredulous.
Is animated.	Is stiff and formal.
Establishes rapport.	Acts bored.
Responds supportively.	Frequently interrupts.

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

15. Decisiveness. This general indicator is made up of two rating scales, one each from the In-Basket and ALGE Field Exercise. The ratings emphasize the timeliness of the assessee's decision making.

The scales comprising Decisiveness are as follows:

In-Basket No. 13

Decisiveness:

____ a. Frequently made timely decisions.

____ b.

____ c. Occasionally failed to make decisions, or some decisions made were not timely.

____ d.

____ e. Seldom made decisions, or most decisions made were not timely.

ALGE I-3

Decisiveness. This scale is directed at the assessee's ability to make clear-cut and timely decisions.

Good Qualities	Poor Qualities
Makes decisions promptly.	Frequently changes mind.
Sticks by decisions.	Decides hesitantly or too late.
Decisions are clear-cut.	Uses poor judgment.
Decisions of good quality.	Doesn't consider consequences.
	Changes when challenged by other member(s).

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

16. Use of Available Information. This indicator is made up of three assessment scales, one each from Conglomerate Game, In-Basket exercise, and the Simulate. The Conglomerate rating emphasizes the assessee's receptivity to the ideas of others; the In-Basket rating is concerned with the assessee's use of available information; and the Simulate behavioral checklist scales rate the seeking of information and the use of information.

The scales comprising Use of Available Information are as follows:

Conglomerate Game III-1

Receptivity: Listening to and considering ideas from others.

Scale:

a. Poor.
b. Fair.
c. Average.
d. Good.
e. Excellent.
f. Not Observed.

In-Basket No. 8

Use of Available Information:

____ a. Seldom used available information and only √ sought additional information in a few cases.

____ b.

____ c. Occasionally used available information and sought additional information.

____ d.

____ e. Frequently used available information and sought additional information as needed.

Simulate Scales:
Information Seeking, 6 items, ANCOES.
Information Seeking, 8 items, IOBC.
Use of Information, 3 items, IOAC.

17. Decision Quality. This indicator is made up of four assessment scales from the Conglomerate Game, In-Basket exercise, and the Simulate. The Simulate contributes two scales, the Decision-Making global rating and a behavior checklist scale for Decision Quality.

The scales comprising Decision Quality are as follows:

Conglomerate Game III-7

Judgment. The ability to reach logical conclusions based on the information at hand. Includes intelligent, logical, and realistic decisions or suggestions.

Scale:
a. Poor.
b. Fair.
c. Average.
d. Good.
e. Excellent.
f. Not Observed.

In-Basket No. 4

Decision Making:

____ a. Seldom made quality decisions which solved the problem. Decisions solved only a minor aspect of the problem.

____ b.

____ c. Occasionally made quality decisions.

____ d.

____ e. Frequently made quality decisions which had immediate and long-range applicability.

Simulate Global Rating

Decision Making

Characteristics of Effectiveness

Making effective decisions by identifying the major aspects of the problem; actively searching for facts relevant to the decision; evolving decisions which are technically correct in view of available information and circumstances; producing decisions which are timely in view of requirements of the task or situation; taking into account all possible contingencies, alternatives, and possibilities; making all decisions which are properly his to make.

Characteristics of Ineffectiveness

Making ineffective decisions by ignoring or overlooking sources of relevant information; focusing narrowly on relatively minor aspects of the problem; vacillating indecisively beyond the time frame in which an optimal decision can be implemented; refusing to accept decision-making responsibility which is properly his by referring it upward or downward.

Simulate Scale:
Decision Quality, 13 items, IOBC.
Decision Quality, 3 items, IOAC.
Decision Quality, 5 items, ANCOES.

18. Tolerance of Stress. This indicator is made up of two assessment scales from the ALGE Field Exercise and the Simulate. Both scales are specifically addressed to stress tolerance. The Simulate behavior checklist scale is used with IOAC only.

The scales comprising Tolerance of Stress are as follows:

ALGE III-2

Stress Tolerance. This scale is directed at the assessee's ability to control anxiety.

Good Qualities	Poor Qualities
Kept "cool."	Lost "cool."
Maintained humor throughout.	Appeared angry.
	Negative reaction to leaders' instructions.

Scale:
a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

Simulate Scale:
Stress Tolerance, 4 items, IOAC.

19. Behavioral Flexibility. This indicator is made up of five items from four assessment exercises, two from the Entry Interview and one each from LEADER War Game, ALGE Field Exercise, and the Simulate. The two ratings from the entry interview have to do with the assessee's evaluation of his own strengths and weaknesses. The rating scales from LEADER and ALGE both are concerned with the assessee's ability to change and adjust to conditions in those exercises. The Simulate behavior checklist scale applies to the IOAC group only and rates the assessee's flexibility in preselected simulate situations.

The scales comprising Behavioral Flexibility are as follows:

Entry Interview No. 8

How does he evaluate his own assets?

a. Inaccurate evaluation of assets.
b.
c. Adequate recognition of assets.
d.
e. Accurate evaluation of assets.

Entry Interview No. 9

How does he evaluate his own liabilities?

a. Inaccurate evaluation of liabilities.
b.
c. Adequate recognition of liabilities.
d.
e. Accurate evaluation of liabilities.

War Game III-4

Flexibility. This scale is directed at the leader's ability to recognize need for change and to readily adjust as necessary. High flexibility includes readiness to evaluate other's recommendations as well as changing strategy and team organization when earlier plans proved less effective.

Scale:
a. Very high flexibility.
b. Good flexibility.
c. Moderate flexibility.
d. Poor flexibility.
e. Very poor flexibility.

ALGE I-4

Flexibility. This scale is directed at the assessee's ability to recognize need to change and to readily adjust as necessary.

Good Qualities	Poor Qualities
Tries another approach when plan is not working.	Won't vary his approach, even when unsuccessful.
Accepts suggestions of others.	Doesn't accept other's suggestions.
Innovative solutions.	

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

Simulate Scale:
Flexibility, 3 items, IOAC.

20. Self-Confidence. This indicator is made up of three rating scales, one each from the Entry Interview, In-Basket, and the Appraisal Interview. The ratings have to do with the assessee's confidence in expression of opinion and problem solving, and with assessee appearance of self-confidence.

Scales comprising Self-Confidence are as follows:

Entry Interview No. 5

How do you rate him on expression of opinion?

a. Uncertain; indecisive; evasive; vacillates.
b.
c. Reasonably sure of self; some indecision.
d.
e. Definite; forceful; firm.

In-Basket No. 12

Self-Confidence:

____ a. Seldom confident in problem solutions.
____ b.
____ c. Was confident about several specific items, but lacked confidence in overall in-basket solution.
____ d.
____ e. Confident that his problem solutions are correct.

Appraisal Interview III-1

Self-Confidence. This scale is directed at the assessee's ability to conduct and project himself in a self-assured, confident manner.

Good Qualities	Poor Qualities
Is poised.	Speaks unsteadily.
Is calm.	Appears nervous or anxious.
Speaks firmly.	Loses initiative of interview.

Scale:

a. Poor. Mostly poor qualities.
b. Fair. Many poor qualities, few good.
c. Average. Several poor qualities, several good.
d. Good. Few poor qualities, many good.
e. Excellent. Mostly good qualities.

21. Display of Initiative. This general indicator is made up of one rating from the In-Basket exercise and a behavior checklist scale from the Simulate. Behavior checklist scales for initiative are available for IOAC and ANCOES assessees.

The scales comprising Display of Initiative are as follows:

In-Basket No. 15

Personal Actions and Initiative:

____ a. Frequently took appropriate action on his own. Displayed initiative beyond the requirements of the task.

____ b.

____ c. Occasionally took appropriate action on his own.

____ d.

____ e. Seldom took action on his own. (Delayed, delegated, or referred) Took inappropriate action. Displayed a lack of initiative.

Simulate Scales:

Initiative, 3 items, IOAC.
Initiative, 3 items, ANCOES.

22. Facilitation of Subordinates. This indicator is based on behavior checklist scales from the Simulate.

The scales for Facilitation of Subordinates are as follows:

Simulate Scales:
Facilitation, 12 items, IOAC.
Informing Subordinates, 13 items, IOBC.
Informing Subordinates, 9 items, ANCOES.

23. Effective Support of Subordinates. This general indicator is available for the IOAC and ANCOES populations only. The score for the indicator is based upon behavior checklist scales from the Simulate.

Scales for Effective Support of Subordinates are as follows:

Simulate Scales:
Support of Subordinates, 8 items, IOAC.
Concern for Subordinates, 4 items, ANCOES.

24. Motivating Subordinates. This indicator is based on behavior checklist scales from the Simulate.

The scales for Motivating Subordinates are as follows:

Simulate Scales:
Motivating Subordinates, 10 items, IOAC.
Rewards Performance, 3 items, IOBC.
Rewards Performance, 5 items, ANCOES.

25. Developing Unit Cohesion and Esprit. This indicator is available for the IOAC population only and is based on a behavioral checklist scale from the Simulate.

The scale for Developing Unit Cohesion and Esprit is as follows:

Simulate Scale:
Developing Esprit, 3 items, IOAC.

26. Quality Control of Subordinate and Unit Performance. This indicator is available for the IOAC and ANCOES populations only and is based on behavioral checklist scales from the Simulate.

Scales for Quality Control are as follows:

Simulate Scales:
Quality Control, 8 items, IOAC.
Quality Control, 5 items, ANCOES.

Appendix B

Training Course Evaluation Form

STUDENT EVALUATION FORM

INSTRUCTIONS

The material in this booklet describes a number of tasks which you are to perform. These will range from listing certain items to analysis of a case study.

This evaluation period is six hours long. At the beginning of the period everyone will watch a short video taped group discussion after which each student will make several ratings of the discussants. Once that task is completed, you are to complete the remaining tasks.

You may take a break if you feel that you need to. Do not discuss this evaluation with other students. When you have completed the booklet turn it in to the instructor.

TASKS

1. You are going to view a video-tape of a group discussion. Observe the interaction and identify the behaviors that are either effective or ineffective in influencing others. List five effective and five ineffective factors.

   a. Effective Factors

   b. Ineffective Factors

2. Three interpersonal situations are described below. Read each description carefully and then select one from the list of alternative behaviors presented immediately below the description. The alternative behaviors describe actions which could be taken. Select the one which <u>you</u> would perform in that situation.

   a. You have been drilling a squad in preparation for the upcoming drill competition. You have been having quite a bit of trouble getting the men to improve their performance. You are really tired since you've been at it all afternoon. You had just given an order and one of the men asked "Sir, are you supposed to give a facing movement when we're at present arms?" You would:

      (1) Tell the man that you're in charge and that you give the orders.

(2) Reprimand the man for talking in formation.

(3) Have the man fall out and punish him in some way.

(4) Acknowledge the error and then continue the drilling.

(5) Acknowledge the error, plan to counsel the man later concerning his lack of tact, and then continue the drilling.

(6) Dismiss the men because you obviously are fatigued or you wouldn't have made the error.

b. You are talking with your commanding officer. He has just asked you if you would stay after duty hours to help him with a project which he is doing for a civilian club of which he is a member. You had already made plans to attend an event with several other officers.
You would tell your commanding officer that:

(1) You will stay but you have to inform your friends that you will not be able to go with them.

(2) You are unable to stay today due to previous plans.

(3) You don't feel that it is appropriate to ask you to stay after duty hours.

(4) You would be happy to stay.

(5) You cannot stay.

c. As a platoon leader you are in the process of preparing for an inspection by the commanding officer of your platoon. You had told the platoon sergeant how you wanted the man to display their equipment. The sergeant has just told you that he doesn't think that that type of display is regulation.
You would tell the sergeant that:

(1) You are in charge and to get the equipment displayed just as you had described.

(2) He could well be right since he has quite a bit of experience and to have the men set them up to conform to regulations.

(3) He was out of step with the "new" Army.

(4) You know what the regulations are and if he isn't sure he had better check with them himself.

(5) He should do it any way he wanted to.

(6) You will not stand for your platoon sergeant to question your orders in front of the men.

3. Analyze the following situation to identify the probable course of the problem specified below.

Problem: Master Sergeant Healy, an acting platoon leader of the 2nd Platoon is not only acting very coldly and in a hostile manner toward 2Lt. Bolin, the platoon leader of the 1st Platoon, but he has made several remarks about 2Lt. Bolin trying to run the company.

Situation:

Captain Hands was short one officer in his company and assigned the ranking platoon sergeant, Master Sergeant Healy, as acting platoon leader of the 2nd Platoon. During the weekly platoon leader's meeting he noticed Master Sergeant Healy's behavior toward 2Lt. Bolin. Healy acted in a very cold and hostile manner toward Bolin. Captain Hands was uncertain whether 2Lt. Bolin was not aware of the sergeant's behavior or whether he was just ignoring it as he definitely did not show his awareness by his actions.

Later, he heard the first sergeant discussing a detail of men with Master Sergeant Healy and Healy stated that the lieutenant should get the detail since he's trying to run the company.

Captain Hands knew that until recently Healy and Bolin had gotten along well, so he reviewed the information which he had on each of the men.

Master Sergeant Healy is 42 years old, has 19 years of experience, and has been with the company for several years. He is competent and runs a good platoon.

Second Lt. Bolin is 22 years old and was assigned to the company about two weeks ago. He has no troop command experience and no enlisted experience. He has gained a reputation as a

conscientious and hard worker. He seems to get along well with the other platoon leaders.

Captain Arms decided to talk with the executive officer, Lt. Sams, to determine whether or not he knows anything related to the problem. Lt. Sams stated that he can't think of anything which could have caused such a reaction. He said that the last time he had seen the two men at the same time was the previous week. At that time he had been crossing the company area and noticed SFC Rigdon, one of the 2nd Platoon squad leaders, training his squad. The squad was performing in a sloppy manner with very little enthusiasm and making a number of obvious mistakes. As he was on his way to talk with SFC Rigdon about it, 2nd Lt. Bolin, who was closer, went over to the squad, took the squad leader aside, and corrected him. After that the squad straightened up. Lt. Sams said that he stayed around a little while to watch and saw Master Sergeant Healy enter the company area. About then 2Lt. Bolin left, and as he met Healy he spoke to him and left the area. Lt. Sams was certain that there has not been any more contact between the two men.

Captain Arms has to decide what is causing the problem or the whole company may be affected, as all of the NCOs in the company seem to know about the problem.

The probable cause of the problem is:

4. There are several factors that can affect communication within an organizational hierarchy. List five factors for each of the following processes which can affect communication.

   a. Upward communication

   b. Downward communication

5. List seven factors which must be included in a well-written "After Action" report.

6. Write an "After-Action" report describing the content of the training exercise in which you participated. (If you participated in two, write the report on the controlled simulation.)

7. Assume you are a platoon leader of an airborne Infantry company. The company is at full strength (6 officers, 176 enlisted). The inventory of platoon equipment is presented on the next page. The company commander has assigned you two tasks. The content of the

RIFLE PLATOON/HQ
EQUIPMENT INVENTORY

		No.
B49272 3	Bayonet-Knife:W/Scabbard for XM16E1 Rifle	4
B67081 3	Binocular: 6X30 Military Reticle	2
C68719 1	Cable Telephone: WD-I/TT DR-8 1320 FT	2
E63317 2	Compass Magnetic:Lensatic 1:58 in Dia Dial	3
K23746 1	Headset-Microphone: H-161/U	1
M35691 2	Metascope Assembly:Image Infrared Transistorized	1
Q20935 1	Radiacmeter: 1M-93/UD	2
Q21483 1	Radiacmeter: IM-174/PD	1
Q35454 1	Radioset: AN/PRC-6	2
Q37005 1	Radio Set: AN/PRC-25	1
R56742 1	Reel Equipment: Portable Wire Laying Unit	1
R94977 3	Rifle 5.56 Millimeter:With Bipod	4
V30252 1	Telephone Set: TA-1/PT	6
W28757 8	Tool Kit: General Use Tools Sig Part/DWG No TE33	1
	3 Rifle Squads	
B49272 3	Bayonet-Knife:W/Scabbard For XM16E1 Rifle	30
E63317 2	Compass Magnetic:Lensatic 1/58 In Dia Dial	9
L44575 3	Launcher Grenade: 40 Millimeter	6
M96741 3	Pistol Caliber .45 Automatic:	6
Q35454 1	Radio Set: AN/PRC-6	3
R94977 3	Rifle 5.56 Millimeter:With Bipod	24
U29238 2	Starlight Score Hand Held Or Weapon Mounted 7 Items	6
	3 Weapons Squads	
B49272 3	Bayonet-Knife:W/Scabbard For XM16E1 Rifle	11
B67081 3	Binocular: 6X30 Military Reticle	3
E63317 2	Compass Magnetic:Lensatic 1.58 In Dia Dial	1
L92386 3	Machine Gun 7.62 Millimeter:Light Flexible	2
M75714 3	Mount Tripod Machine Gun:7.62 Millimeter	2
N96741 3	Pistol Caliber .45 Automatic:	8
Q35454 1	Radio Set: AN/PRC-6	1
R94977 3	Rifle 5.56 Millimeter:With Bipid	3

plans developed for task accomplishment should conform to elements of a good plan.

a. Task number one - One of your duties is to serve as Mess Officer. The company is going to the field for two days. The bivouac area will be 35 miles from the company area. You are to develop a plan for getting the mess area set up before the rest of the company arrives.

b. Task number two - You are to develop a plan for a patrol mission. The mission is to send out a four-man 48-hour reconnaissance patrol to locate enemy artillery positions.

8. Analyze each of the following situations. In each situation you will be required to identify a principle of organization and state how it is involved in the situation.

Example: An officer is assigned to a job which involves the direct supervision of 75 subordinates.

The principle of organization which is involved is span of control. It is involved in this situation since no supervisor should be responsible for a greater number of subordinates than can be effectively supervised and 75 would likely exceed the optimum number of subordinates.

For two of the situations you will also be required to identify two effective and two ineffective supervisory behaviors. Examples of effective supervisory behaviors are (a) identifying and maintaining an awareness of the unit's state of morale and (b) distinguishing between failures resulting from lack of ability and failures resulting from poor motivation. Examples of ineffective supervisory behaviors are (a) ignoring the problems and complaints of members of the unit and (b) not explaining why assigned tasks must be accomplished.

a. Analyze the following situation and identify two effective and two ineffective supervisory behaviors. The supervisor may be the same in all instances, as several command levels may be involved. You are also to identify one principle of organization and state how this principle is involved in the situation.

The platoon is preparing to leave the company area for a training area. Lt. Mayo, the platoon leader, loudly told the men to load up, and then asked the platoon sergeant, SFC Lewis, if everything was ready. SFC Lewis told him they were nearly ready and asked if some of the crew-served weapons could be left behind. He stated that if it was an

attack problem there wouldn't be enough men to displace them by hand. Lt. Mayo told him that he knew better than that since it was a defense problem. He then told SFC Lewis to move the men out.

During the problem Lt. Mayo checked several of the men and changed the sergeant's instructions. When they protested he told them that he was in charge and not to forget it.

After the problem the men assembled for the return, but the trucks failed to show up. Lt. Mayo prepared to return to the company area in the jeep. SFC Lewis asked him about the weapons as there weren't enough men to carry them back. Lt. Mayo told him that they would just have to make out, and then left. When the men asked about the weapons the sergeant told them that they would just have to carry them. He then stated that he would try to obtain some men from a rifle squad to help.

(1) Supervisory Behaviors

(a) Effective

(b) Ineffective

(2) Principle of Organization

b. Analyze the following situation and identify two effective and two ineffective supervisory behaviors. The supervisor may not be the same in all instances, as several command levels may be involved. You are also to identify one principle of organization and state how this principle is involved in the situation.

Sergeant Healy, a team leader, is talking with Sergeant Smith, a squad leader whose squad is acting as outguard for the platoon during a night field maneuver. Sergeant Healy has just commented on how exhausted everyone is and how glad he is that there is only one more day of the problem.

Sergeant Smith asked what security is to be maintained. Sergeant Healy replied that he didn't know, probably the same as usual. When Lt. Arms, the platoon leader called earlier he had forgotten to ask him and then when he called back, the lieutenant was not at the platoon CP. Sergeant Healy said that a 50 percent alert would probably be enough.

When Lt. Arms arrived about three hours later, he became very angry with Sergeant Healy because half of the men were sleeping. Sergeant Healy replied that nothing had been said about the personal comfort of the men and a 50 percent alert was the standard procedure. He further pointed out that the men were exhausted. The men were all awake now and standing around. Lt. Arms angrily told Sergeant Healy that he was incompetent and would be punished later. He further stated that his platoon had been charged with security for the area and that a 100 percent alert should have been in effect.

(1) Supervisory Behaviors

(a) Effective

(b) Ineffective

(2) Principle of Organization

c. Analyze the following situation and identify one principle of organization and state how it is involved in the situation.

Lt. Bolin had assumed command of A Company three months ago. Two weeks later he had been assigned the task of constructing a Leader's Reaction Course to be used for training. He had then called the leader of the 1st Platoon in and informed him of the requirement. He told the platoon leader that the members of the 1st Platoon would perform the work necessary to develop the course.

The plans were soon completed and construction of the course began shortly thereafter. Since then, Lt. Bolin has spent the greatest part of his time at the site of the course. He has supervised each of the activities necessary to construction of the course. On one occasion, the platoon sergeant of the 1st Platoon asked if he could do anything to help but Lt. Bolin assured him that everything was proceeding smoothly. The course will be completed by next week.

(1) Principle of Organization

9. Analyze the following case study. The written analysis should include the following factors:

a. Adequacy of task definition.

b. Adequacy of feedback on task assignment.

c. Adequacy of performance standards specification.

d. The most appropriate behavior(s) for the superior concerning the subordinate and the task at the conclusion of the case study. (What should the commander do?)

Major Rolin has been assigned as battalion XO. He has had eight years of military experience, having entered the Army as a second lieutenant in Aviation. Upon making the rank of Captain, he was first assigned to ROTC duty as an assistant PMS and later was transferred to Reserve Component Duty. His command experience prior to assignment to this tactical battalion is minimal.

When he reported into the battalion last month, the battalion commander, LTC Jones, gave him a briefing on the battalion. He cited several problems in the battalion. These problems were:

(1) There is a critical shortage of experienced personnel which requires that he use "crisis management" and centralize operations whenever possible.

(2) Captain Sharp, the commanding officer of C Company, is the only advanced course graduate. The battalion has 97 percent of its authorized company-grade officer strength; most of the lieutenants have recently graduated from the Infantry Officer Basic Course (IOBC). Only two of the lieutenants have any field experience.

(3) The same situation holds for the NCOs. About 40 percent of the senior NCO positions are filled by relatively junior NCOs who have little experience in a garrison situation. They are capable and are proficient in insurgency-type warfare. However, they have little knowledge of combat tactics in other environments.

(4) Maintenance on the equipment is very bad.

(5) The brigade commander feels that the men in the unit should be frequently checked by the junior leaders.

(6) While the oversees returnees are generally pretty bitter and have low morale, most of them will be separated within the next few months.

(7) The battalion commander doesn't feel that the men feel a part of the unit.

Since the briefing, Major Rolin has noticed several other things. These other factors were:

(1) The S3 has complained about the inexperienced help and the worthless NCOs assigned to his section, The output of the S3 section is of low quality. The S3 and his assistant seem to put in fewer work hours than some of the other officers.

(2) Very few of the soldiers show up for training. Instructor assignments are made just prior to the time for the class.

(3) Some of the officers appear to be more likely than others to crack down on infractions of discipline.

LTC Jones has called Major Rolin into his office and given him the following assignment. Prepare a report in which you assess the leadership climate of the battalion. Major Rolin agreed and asked when the report should be completed. LTC Jones told him to submit the report in one week, that he wanted a good report, and that the report would provide the basis for developing a program which would improve the "sense of belonging" within the unit. He then dismissed Major Rolin.

For four days Major Rolin examined every operation within the battalion. He decided that, in order to prepare an adequate report, he would need additional time. Accordingly, he went to LTC Jones and told him: "I really feel that I have made progress and am on the right track, but I haven't been able to obtain information about certain topics. I would like to have an additional week to attempt to obtain and check over some records."

10. In this problem you will be applying the decision-making process. You are to handle the situation just as you will in real life. Write out a complete description of how you go about handling the situation through use of the decision-making process. For each of the critical steps in the decision-making process, e.g., alternatives, criteria, be sure and list every one you would consider. Provide as much detail as you can which will reflect the manner in which you went about handling the situation.

The quality of the decision you reach is less critical than your ability to effectively apply the decision-making process. You may identify alternative courses of action or evaluative criteria for which little or no information is presented in the

situation description. If this should occur, you are free to develop your own information concerning the alternative or the criterion, but you must spell out the assumptions you made in developing the information. For example, if you had identified three alternative courses of action and one of the criteria selected was cost and there was no information in the situation description, you might arbitrarily decide which course of action was most costly, which was next most, and so on. However, you must explicitly state your assumptions.

You will have 20 minutes to deal with the situation. You are to time yourself. The instructor will not be timing you, so use the spaces provided below to enter your starting and stopping times. Do not exceed the 20-minute time limit.

Starting time _____

Completion time _____

Situation:

Assume that you are the Battery Commander of Battery A, 2d Howitzer Battalion, 2d Artillery stationed at Ulm, Germany. The annual battery test is to be conducted in four weeks. In order to prepare for the test, you have urgently requested that the S3 obtain for your use the closest training area where actual firing can be conducted. The S3 located a training area but it is 60 miles away in another zone and under the control of an allied army.

One week later, you received notice that two billets, a mess hall, and several firing ranges had been placed at your disposal. Unofficially you hear that in order to obtain permission to use these facilities the Div Arty CG himself had to personally persuade the allied commander to release them based on your urgent need for them.

You immediately go to the training area to inspect the facilities. You observe that the billets and mess hall are completely inadequate. The beds have straw mattresses which are of questionable sanitary conditions. The mess hall is small and very filthy.

What is your decision?

11. List the six steps in the decision-making process.

Appendix C

Descriptions and Scoring Procedures for the Criteria

This appendix presents a description of the tasks and task criteria. The criteria are presented for each training objective and the relevant leadership dimensions. The scoring procedure for each of the criteria is described.

The last part of this appendix presents the criterion for program effectiveness.

TRAINING OBJECTIVE CRITERIA DESCRIPTION

1. Criteria Description (Social Skills)

The trainee is required to view a videotape of a group discussion and to identify both effective and ineffective factors in influencing others. The videotaped group discussion viewed by the students is staged to insure that both effective and ineffective factors in influencing others are exhibited by the discussants. The following factors reflecting either effectiveness or ineffectiveness in influencing others are shown in the performance of one or more of the five actions:

a. Effective Factors

(1) Uses a different approach with different group members.

(2) Participates actively throughout the discussion.

(3) Doesn't interrupt others.

(4) Encourages the participation of others.

(5) Attempts to resolve conflicts between other group members.

(6) Acknowledges effective contributions from others.

(7) Creates satisfactory compromises.

(8) Expresses interest in others.

(9) Allows others equal time to present their views.

b. Ineffective Factors

(1) Attempts to dominate other group members.

(2) Ignores the comments of others.

(3) Uses the same approach for all group members.

(4) Doesn't participate.

(5) Elicits hostility from others by his actions.

(6) Contributes to group tension.

(7) Focuses activity completely on task accomplishment.

(8) Attacks others personally.

(9) Refuses to compromise.

Scoring Procedures

A student will be scored on the basis of the number of factors which are identified. One point will be assigned for each effective and ineffective factor to a maximum of five points for each category. The 10 factors must be included in (or equivalent to) the list of behaviors presented in the "Criteria Description" section.

2. Criteria Description (Social Skills)

The student is required to analyze each of the three descriptions of interpersonal situations and to select one of several alternative behaviors which would be performed in that situation.

The behaviors selected by a panel of behavioral scientists as most appropriate for each of the three situations are as follows:

a. Acknowledge the error, plan to counsel the man later concerning his lack of tact, and then continue the drilling.

b. You will stay but you have to inform your friends that you will not be able to go with them.

c. The sergeant could well be right since he has quite a bit of experience and he should have the men set them up to conform to regulations.

Scoring Procedures

The student will be scored on the degree of agreement between his selection and those presented above. One point will be assigned for each alternative correctly selected by the student.

3. Criteria Description (Social Skills)

The student was required to analyze a case study describing an episode representative of one which could occur in a small military unit and correctly identify the cause of the problem. The cause of the problem is that 2LT Bolin violated the chain-of-command to make an on-the-spot correction and failed to inform MSGT Healy, who resented the violation of his prerogatives as a platoon leader.

Scoring Procedures

A student will be considered as having successfully achieved this training objective if his analysis includes the description presented above, or a similar interpretation, of 2LT Bolin's actions. Scoring will be on a "yes" or "no" basis, with one point assigned for a "yes" judgment.

4. Criteria Description (Organizational Leadership Role Skills)

The student was required to list at least five factors that can affect communication effectiveness for each of the two processes of upward and downward communication.

The factors relevant to each process which had been discussed with the students were:

a. Upward Communication

(1) Assuming that superiors will consider any opposition to their opinion to be "negative thinking."

(2) Viewing gripes as the normal state of affairs and not passing such information upward.

(3) Deciding that certain information is unimportant and that the information source doesn't have the "big picture" in mind.

(4) Assuming that superiors are not interested in the information.

(5) Believing that you will cause trouble for yourself or your unit if you pass this information upward.

(6) Believing that your superiors do not want to hear bad things, only good ones.

b. Downward Communication

(1) Believing that expression alone is communication.

(2) Failing to recognize that for maximum effectiveness communication must go both ways, and that obtaining feedback may be as critical as information transmission.

(3) Overcommunicating instructions and orders. This can result in clogging or overloading downward channels.

(4) Looking for formulas or communication gimmicks rather than coming to grips with basic problems such as fitting the communication to the recipient(s).

(5) Failing to consider the importance of nonrational, covert, emotional aspects of the communication climate.

(6) Failing to recognize that human communication involves interpersonal relationships.

Scoring Procedure

The scoring for each process will involve the assignment of one point for each factor provided the factors are on (or equivalent to) the relevant list presented above. A maximum of five points for each process will be assigned.

5. Criteria Description (Communication Skills)

The student was required to list seven factors which must be considered in preparing a well-written "After-Action" report. The list of factors which need to be considered is presented below.

a. General

(1) Background, e.g., previous operations in area, description of area, present situation.

(2) Name of operation.

(3) Date of operation.

(4) Location.

(5) Terrain.

(6) Weather.

(7) Control headquarters' location.

(8) Reporting officer.

b. List of Units Involved in the Operation.

c. Supporting Forces.

d. Mission.

e. Concept of Operations (Brief overview of strategies employed).

f. Execution (Sequence of events).

g. Summary of Statistics.

h. Communications.

i. Civil Action.

j. Psywar.

k. Intelligence.

l. Supply and Administration.

(1) Operational organization (e.g., supply points, method and frequency of resupply).

(2) Treatment of casualties.

(3) Problems encountered.

m. Operational Problems Encountered.

Scoring Procedure

The student will be scored on the basis of the number of factors listed which are represented on (or equivalent to the factors on) the list presented above. A maximum of seven points will be assigned the student.

6. Criteria Description (Communication Skills)

The student was required to develop an "After-Action" report which described the training exercise in which the student had participated.

Scoring Procedure

The report is evaluated by two independent judges who are familiar with the exercises. The reports are evaluated on the basis of adequacy, represented by clarity, conciseness, and accuracy. Any disagreements between the two judges should be resolved through discussion. Scoring will be on a "yes" or "no" basis, with one point assigned for a "yes" judgment.

7. Criteria Description (Administrative Skills)

The student was required to develop two plans for the accomplishment of two tasks appropriate for a small military unit. The elements of planning which should have been considered are as follows:

a. Statement of terminal objectives to be achieved.

b. Clear statement of assumptions.

c. Specification of priorities.

d. Identification of units or agencies affected.

e. Resource requirements.

f. Required external cooperation or assistance.

g. Time frames specified.

h. Specification of progress reports.

i. Coordinating agencies.

j. Identification of possible problem areas.

Scoring Procedure

The student will be scored on the basis of the extent to which each of the two plans which are developed included the elements of planning presented above (or their equivalents). One point will be assigned for each such element for each of the two plans to a maximum of six points per plan.

8. Criteria Description (Administrative and Supervisory Skills)

The student was required to analyze each of three vignettes concerning activities common to a small military unit. For two of the vignettes the student was to identify two effective and two ineffective supervisory behaviors. For each of the three vignettes the student was to identify a principle of organization and explain how it was involved. The supervisory behaviors reflected in two of the vignettes, and the principle of organization involved in each, are presented below.

a. Vignette Number One

(1) Effective supervisory behaviors

(a) The platoon sergeant passed the order to march back to the men without stating that he didn't agree with it, which could have had an even greater adverse effect on the morale of the men.

(b) The platoon sergeant asked his superior about getting the weapons back, indicating a concern for the welfare of the men.

(c) The platoon sergeant told the men that he would try to obtain assistance, thereby facilitating their performance of the assigned task.

(2) Ineffective supervisory behaviors

(a) It would seem that the platoon leader had not briefed his sergeant concerning the nature of the problem. This represents ineffective facilitation of the subordinate's task accomplishment.

(b) The platoon leader failed to support his platoon sergeant when he changed the instructions which the sergeant had given the men.

(c) The platoon leader expressed disregard for the welfare of his men when he told the platoon sergeant to march the men back and have them carry the weapons.

(3) Principle of Organization

The principle of organization involved in this situation is that of command unity - any member of the organization should be required to report to only one superior. On two occasions - loading the trucks and in the field - the platoon leader bypassed the chain of command. The field incident was more serious than the one in the company area, as the platoon leader countermanded the sergeant's instructions.

b. Vignette Number Two

(1) Effective supervisory behaviors

(a) Sergeant Healy considered the welfare of his subordinates. Since they were exhausted he arranged the situation so that some of them could get some sleep.

(b) The team leader gave specific direction to the squad leader as to how the job was to be done, that is, he directed that a 50 percent alert be initiated.

(c) Sergeant Healy also represented his subordinates to his superior even at the risk of becoming unpopular with his subordinates when he informed the lieutenant of the men's physical state.

(2) Ineffective supervisory behaviors

(a) Lt. Arms failed to provide the sergeant with all needed information which would facilitate the subordinates' performance of the assigned task.

(b) The lieutenant not only criticized a subordinate in front of others, but he also criticized him as a person rather than criticizing specific acts of the subordinate.

(c) The lieutenant criticized the subordinate in an emotional manner.

(d) The lieutenant failed to insure compatibility of the unit's goals and those of the larger organization (the company), by not providing sufficient information to subordinates.

(e) The lieutenant, by being unavailable to the subordinate, failed to maintain quality control of the unit's performance.

(3) Principle of organization

The principles of organization involved in this situation are those of goal clarity - the goal of the organization should be clear and all personnel should understand its purpose - and assignment of responsibility - the assigned responsibilities should be specific, definitive, and understandable. The lack of information concerned both of these principles as the subordinate was not clear of the goal - security of the entire area - nor did he understand the responsibility which the lieutenant assigned him - initiation of a 100 percent alert. Violation of these principles can result in an unsuccessful mission.

c. Vignette Number Three

(1) Principle of organization

The principle of organization involved in this situation is that of delegation of authority - authority should be delegated to the lowest practicable level. In this case the platoon leader would probably have been tasked with supervision of the mission, with the platoon sergeant carrying out the actual supervision. A company commander's time is too valuable to spend in such a fashion. In addition, such behavior weakens the chain of command and lessens the authority of subordinate leaders.

Scoring Procedure

A student will be scored on these objectives in the following manner:

a. Supervisory Behaviors

The two effective and two ineffective supervisory behaviors identified for each of two vignettes must be on (or equivalent to the items in) the list presented in the "Criteria Description" section for the respective vignette. One point will be assigned for each effective or ineffective behavior to a maximum of two points for each type of supervisory behavior, or a total of four points per vignette.

b. Principle of Organization

The principle of organization identified as being involved in each of the three vignettes must correspond to the principle presented (or its equivalent) in the "Criteria Description" section for the respective vignette. Scoring will be on a "yes" or "no" basis, with one point assigned for each "yes" judgment.

9. Criteria Description (Supervisory Skills - Administrative Skills)

The student was required to analyze a case study, which analysis must include the following factors:

a. Adequacy of task definition.

b. Adequacy of feedback on task assignment.

c. Adequacy of performance standards specification.

d. The most appropriate behavior(s) for the superior concerning the subordinate and the task at the conclusion of the case study.

Each of these factors, and the manner in which it should be reflected in the analysis, will be discussed below.

a. The analysis should point out that the task assigned Major Rolin was vague, indefinite, and extremely ambiguous. At no point did LTC Jones state what factors he felt were indicative of leadership climate, nor how a program to improve the men's "sense of belonging" would relate to the leadership climate. Considering the history of Major Rolin, and his explicit lack of command experience, the assignment of such an ill-defined task represents extremely ineffective supervisory behavior and poor administrative skills.

b. The case study exaggerated what was obviously ineffective supervisory and administrative behavior on the superiors' part. Not only did LTC Jones fail to ask if the major had any questions,

but he also failed to determine whether or not common understanding of the task existed. Simply stating the task does not insure that the other person understands it in the way in which it was intended to be understood. The analysis should clearly point out this leadership defect.

c. Performance standards were not adequately specified for the subordinate. The statement by LTC Jones that he wanted a "good" report conveys very little information as to what he considers to be "good." The superior not only failed to provide the subordinate with adequate standards against which the report could be compared, but the subordinate had to actively ascertain the length of time to be allowed for the report. The students' analysis should indicate that the degree of specification of performance standards by the superior was unacceptably low.

d. The students' analysis should cover the appropriate behavior(s) for the superior concerning the subordinate and the task at the conclusion of the case study. Two aspects are critical to this part of the analysis. First, the student should realize, and so state, that the subordinate requires additional guidance. Simply because the subordinate makes a statement such as, "I really feel that I have made progress," is not really descriptive of what progress has actually been made. The fact that the subordinate did not detail specific activities and degree of task completion are strong indicators that he is still searching for the best method of completing the task. The second critical aspect concerns the fact that the superior should realize that he may need to become involved to facilitate the subordinate's accomplishment of the task. The subordinate's statement that, "...I haven't been able to obtain information about certain topics.," should not have been overlooked in the analysis. An effective superior is alert for any cue indicative of a subordinate's need for assistance.

Scoring Procedures

The student will be scored in the following manner:

a. Administrative Skills

A maximum of two points will be assigned if the first three factors (or their equivalent) are included in the analysis and they are in agreement with the positions presented in the "Criteria Description" section.

b. Supervisory Skills

One point will be assigned if the fourth factor (or its equivalent) is included in the analysis and is in agreement with the position presented in the "Criteria Description" section.

10. Criteria Description (Decision Making)

The student was required to analyze a situation description and to apply the decision making process in order to identify an appropriate course of action. In the course of applying the decision making process, the student was required to identify alternative courses of action, to develop evaluative criteria for the alternatives, to specify the advantage and disadvantage of each alternative, and to select a course of action within 20 minutes.

The listings of various alternatives, criteria, advantages and disadvantages, and the most probable course of action are presented below.

a. Alternative Courses of Action

(1) Use billets which have been provided.

(2) Bivouac in the area, taking all needed equipment with you.

(3) Cancel the firing practice.

(4) Report the situation to the Div. Arty. CG.

(5) Have the S3 attempt to locate another training area.

(6) Transport the men to the training area every day.

b. Evaluative Criteria

(1) Cost.

(2) Comfort of men.

(3) Amount of equipment required and length of requirement.

(4) Time required to implement each alternative.

(5) Personnel required.

(6) Outside resources required.

(7) Impact upon relations between Div. Arty. CG and the allied commander.

(8) Effect on performance on battery test.

c. Advantage of Each Alternative

(1) Maintains good relations between Div. Arty. CG and the allied commander, as well as costing less than other active alternatives.

(2) Men at the training area but not forced to stay in bad conditions.

(3) Does not negatively impact upon relations between Div. Arty. CG and the allied commander and doesn't require that men stay in bad conditions. Costs least of all.

(4) Demonstrates your concern for your men's welfare.

(5) A more suitable training area might be available.

(6) Doesn't require that men stay in bad conditions.

d. Disadvantage of Each Alternative

(1) Men have to stay in bad conditions.

(2) Extra equipment, personnel required.

(3) Possible negative impact upon battery test.

(4) This will put the CG on the spot, since he either has to recommend that the men stay in bad conditions or will have to go back to the allied commander to cancel the request.

(5) Word might get back to the CG or to the allied commander and negatively impact upon the chance of future cooperation.

(6) The travel would result in less effective training as well as probably requiring additional vehicles and drivers. The cost would also be higher.

e. Most Probable Course of Action

The most probable decision in this case would be to bivouac in the area. This would only require that the men be moved once, they would receive sufficient training to perform well on the battery test, the men would not be required to stay

in bad conditions, the vehicles would not be required other than for the two trips, and the good relations between the Div. Arty. CG and the allied commander would be maintained.

Scoring Procedure

The student's responses should correspond to the respective material presented in the "Criteria Description" section (or be equivalent to the material). The student will be scored in the following manner:

a. Decision Making (Use of Available Information)

Up to a total of seven points will be assigned the student for identification and listing the relevant information, to include the extent to which evaluative criteria are associated with possible alternatives.

b. Decision Making (Decision Quality and Decisiveness)

The student will be assigned up to the designated number of points associated with each of the following requirements which are reflected in his response. The maximum number of points is shown in parenthesis following each requirement.

(1) Correctly interpreted the principal factors bearing on the problem (? points).

(2) Specified three alternative courses of action which would solve the problem (3 points).

(3) Accurately analyzed the principal advantage or disadvantage of each alternative (3 points).

(4) Selected an appropriate course of action (1 point).

(5) Accomplished the above activities within a specified time frame (1 point).

11. Criteria Description (Decision Making)

The student was required to list the steps in the decision-making process. The steps are:

a. Identify the problem.

b. Gather information.

c. Identify and list courses of action.

d. Select the best course of action.

e. Implement the selected course of action.

f. Obtain feedback on the decision effectiveness.

Scoring Procedure

A student will be assigned one point for each of the six steps listed correctly.

PROGRAM EFFECTIVENESS CRITERION

The effectiveness of the training program will be determined by a comparison between the performance of students participating in the training and a comparable group who are not exposed to the program. If the experimental (trained) students perform significantly higher than the controls (nontrained), the program will be considered to have accomplished the specified purpose.

Appendix D

Student Course Evaluation Form

Student Course Evaluation

1. How valuable do you feel this course is for junior officers?

Very Valuable	Moderately Valuable	Not Valuable At All

2. How well was the course organized?

Very Organized	Moderately Organized	Not Organized At All

3. How interesting was the course to you?

Very Interesting	Moderately Interesting	Not Interesting At All

4. What aspects of the course did you find <u>least</u> interesting? Please describe this aspect below, including the reason why you found it least interesting.

Appendix E

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for

Selected Aspects of Leadership

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Appendix F

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for

Selected Aspects of Leadership

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This report describes research concerned with potential utilization of assessment center results and methods within the U.S. Army. The work consisted of four separate tasks. In the first task, curricula of the U.S. Army Infantry School were analyzed to determine their relevance to the various leadership dimensions that are assessed by the USAIS Assessment Center and to identify ways in which assessment results can be used to plan curriculum development

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and individualized remedial instruction. In the second task, assessment center techniques were analyzed to determine their potential for adaptation as leadership training methods. Then, two methods, the In Basket Exercise and the Controlled Simulation, were incorporated into a leadership training program. A pilot test revealed that, when accompanied by appropriate conceptual material, the exercises are effective for improving leadership knowledge and skills. In the third task, a program for training assessors was developed. The program was designed to teach military personnel the skills required to perform observation and recording activities within a variety of performance testing contexts. A pilot test revealed that the program is effective for training military personnel in fundamentals of personnel assessment. The fourth task involved development of a model for use in designing assessment exercises. The result was a 12-step model which assists exercise designers to consider and cope with situational and test factors that impact upon the behavior of assessees.